Telephony

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Why Toll Traffic Studies?

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FACTORS CONSIDERED in estimating traffic loads of various circuit groups. Sectional studies made to verify results of point-to-point studies and prepare estimates for future. Business trends also considered in estimating possible toll traffic loads. Determining busy-hour load of various circuits of major importance. Toll engineering not an exact science; calculations are based largely on averages. Inventories urged to maintain high standard of transmission. Address before the annual convention of the Texas Telephone Association held in Dallas

OBVIOUSLY the provision of an adequate toll circuit layout plays a very important part in the giving of satisfactory toll service. To do a good job in this respect requires not only that there be enough circuits in the various groups but also that the number be not excessive, since we have a very definite responsibility of protecting the revenue.

The provision of a toll line plant, such as covers Texas, is not, of course, the work of any one company. As a matter of fact, practically all companies operating toll plants are vitally concerned. Depending on telephone companies' organization lineups, sometimes a number of departments are involved in the provision of toll line plants over which the traffic operating people handle the message business.

In our company the traffic people's main interest in the circuit engineering work presumably lies in the part we play in preparing the construction program and current day-by-day arrangement of the plant provision, so my talk will be confined to our functions, only bringing in the other departments as occasion requires to complete the story.

In our studies we endeavor to determine the number of circuits that will be needed to handle the traffic expected for each group during one, two or more years hence. Under normal conditions our studies are based on determining the need of new circuits about one year before they are actually placed in service. This interval in doing the engineering and construction work makes it necessary to lay our plans well in advance so that the facilities will be ready for service when they are needed.

Need of New Circuits Determined Years in Advance

As I have stated previously, it is the traffic department's function to estimate the volume of business expected to be offered over the various circuit groups. This estimating must be done on an individual circuit group basis. There is no sure formula that can be used to determine just what business might be expected. The following factors are given considerable weight in the actual estimating:

1. Trend of growth of the terminal and major item of traffic to be handled in the sections under consideration. By this is meant the amount of traffic originating and terminating between the telephones of one city and another.

2. The rate of telephone development at the exchanges involved.

3. Possibilities for changed business conditions that might materially affect the continuation of trends.

4. Rerouting of traffic, either additions or subtractions of traffic routed over the groups studied.

Estimating Traffic for Each Group of Circuits

When these estimates are completed, it is the traffic department's function to determine the number of circuits required in each group. In order to do this, we must establish two things: First, how much traffic we are likely to be called upon to handle; and, second, how much traffic a given group will carry satisfactorily.

Our first job then is to determine the load on each group. In this connection we use as a unit the completed message, since a detailed record suitable for our needs is obtained through the point-to-point traffic study which is made during a selected month in the year and which must meet the following qualifications: First, the month in which the volume of traffic offered

for the majority of the circuit groups approximates that of the busy season, if they are taken as a whole; and, second, the month which is as recent as the time elements involved in completing the load information will permit.

Our state, being largely agricultural, with far-flung active oil sections, has several distinct areas with non-concurrent busy season months, making it necessary for us to also make sectional or check studies during several months of the year. Check studies enable us to verify our conclusions reached as a result of the point-to-point study and to prepare estimates for future recommendation.

With the use of the overall or point-to-point study we make a record of each item of traffic which is a combination of the number of messages in the two directions. It is interesting, also indicative of the size of the job, to know that there are something like 120,000 such items which we have to tabulate. Each of these items must be routed so that we can determine the particular circuit group or groups over which it will be handled.

For example, in the case of a call from Beeville to Dallas, the route would be through San Antonio, so that this item would have to be accounted for on both the Dallas-San Antonio and the San Antonio-Beeville circuit groups.

In connection with the securing of the point-to-point records and the routing of traffic, it is necessary that we furnish information to other companies, who make similar studies during the annual study periods, and which must be included in the individual picture of the various circuit groups.

The latest point-to-point or overall study was made during the period from September 21 to October 20, 1935, inclusive. The base of this record is recorded on Form S-7237 at the various central offices throughout Texas and other states throughout the Southwest. A great many of you folks will recall making the tabulations on these forms last fall from your daily recorded tickets and paid message records.

With very minor exceptions these records, as compiled by you and which form a very important and indispensable part of the base of the study, have all the appearances of being good records that can be relied upon for the very important part they play. In fact, there simply could be no complete point-to-point records without the information contained on these forms, and if we had no point-to-point study made at least occasionally, the problem of our toll traffic engineering would develop into grand guessing contests.

The central office operating people, who usually tabulate these forms, also handle the traffic over the toll facilities provided, and depend upon necessary changes of circuit layouts. I am sure they realize the importance of the records they have prepared, not only from their own standpoint but also from the standpoint of the whole telephone family in Texas.

I believe that our operating forces in Texas will do a good job with proper tools to work with and, sometimes, they do a better job than we think possible under varying circumstances. The people who handle the toll lines have a full realization of just what it takes in the way of good tools to carry out a good operating job:

Proper "Tools" for Good Toll Operating

They want sufficient facilities to handle the traffic expeditiously; they want circuits that can be signaled on with normal effort and over which their customers can carry on conversations without interruptions and with satisfactory transmission volume. I feel confident that with facilities provided on that basis, the operating people will do their part well in the carrying out of the overall job of giving good toll service in Texas.

To get back to the use we make of the records with all the message items routed, we allocate them to the various groups so that when we get through with that part of the job we have a point-to-point record of the items of business handled on each circuit group and, for each, the number of messages together with the number of switches involved in handling. We are then in a position to determine the total load on the group, which we translate for current engineering purposes into messages per average business day.

We also separate the messages into those handled direct, those handled with one switch, two switches, and three or more. This, as I will bring out later, is very important information for us to have in estimating how much business a given group will have.

Having determined the daily number of messages handled during the busy month for each circuit group, we might assume, for example, that we have a two-circuit group on which this amounted to 110 messages per day. Let us assume further that the month of September is that of 1935. We maintain records and, in many instances, curves of past performance on all of the more important traffic items; that is, items which are important because of their volume.

Business Conditions a Factor in Estimating

We also have access to records of business conditions and try to keep constantly on the alert to ascertain factors likely to affect the growth of the business. With these various kinds of information and the others mentioned previously, we estimate the expected volume on each of our groups, concluding with the figure representing the average daily messages on each group during the maximum months of the next two to five years.

Let us assume, then, that for a group on which we had 110 messages per day in September, 1935, our forecast showed an increase to 125 messages for 1936, and that this increase may be expected during September and October of 1936.

On certain toll center groups we prepare a form called the "Distribution and Analysis of Traffic," a report which is made up from a tally by half-hours of messages filed, separation being made between person-to-person and station-to-station traffic, and also the length of conversation recorded. From this record we obtain three important items of information:

1. The per cent of the total day's traffic filed in the busy hour.
2. The average length of conversation.
3. The percentage of station-to-station traffic.

We come now to the necessity for determining the carrying power or capacity of our circuit groups. Here we are, however, confronted with a question as to what grade of service is to be provided. If we could overcome the uneven manner in which our calls come to us or if we could ask our patrons to wait until a circuit could conveniently become available, we could handle something over 100 messages per day over *one* circuit, and keep this circuit continually busy with operating work and conversation time.

However, that would not be satisfactory toll service, and the public demands that we be in position to handle each call promptly when it is filed. Furthermore, we must be able to do this during the busiest hour of the day.

This puts an entirely new light on the load figure of 125 messages per day which we have developed for the group under consideration. We realize that we are not interested so much in this particular problem in the total number of messages per day as we are in the total number of messages to be handled in the busy hour, so we refer to the "Distribution and Analysis of Traffic Report" and find out what percentage of the total day's business is coming in the busy hour.

Busy Hour Load an Important Factor

Let us say, for example, that we find about 12½ per cent or one-eighth of the day's total business in the busy hour of the group we have under consideration. This means that we must provide circuits for one-eighth of 125 messages, or about 15 messages, in the busy hour, so with the busy hour in mind as the important thing we can consider the capacity of our group.

To furnish a satisfactory average grade of service, we cannot expect to use a circuit continually for operating and conversation because, in order to permit the availability for use promptly after a call is filed, there must be some idle time. Furthermore, it is easy to see that the faster our service is to be, the greater must be the amount of idle time we allow its busy hour. This is true, of course, only to the point of having a circuit available at all times.

As a result of studies, it has been determined how much idle time must be allowed in order to give our average service. We determine how many minutes in each hour for various sized groups can be utilized for operating and conversation and still give a fast service.

We find, for instance, for a one-circuit group we can count on a range of, say, 35 to 45 minutes' operating and conversation time, the remaining 15 to 25 minutes of the busy hour being necessarily idle; similarly for a two-circuit group, although there are 120 circuit minutes in the hour, we can count on a range of say 65 to 100 minutes operating and conversation time, and again for a three-circuit group with 180 minutes in the busy hour, we can use, say, 150 minutes.

Average Operating Time Difficult to Determine

Now, then, knowing how many operating and conversation minutes' usage we have available in the busy hour for any number of circuits, our problem is to find out the length of time per message required for operating and conversation purposes. The most difficult part of this job is to determine the average operating time, as there are several factors to be considered.

First, the percentage of station-to-station business and person-to-person business. It takes considerably more operating use of the toll line to establish a person-to-person call than a station-to-station call. This information, as to the percentage of station-to-station business, we obtain from the "Distribution and Analysis of Traffic Report."

Second, the size of the terminals of the groups which must be recognized, for it is a fact that calls between small towns can be put up with less operating labor than calls between large centers where P.B.X. delays, etc., due to more complicated nature of the local plant, are encountered. Our information as to the size of the terminal offices of each group is obtained from population statistics.

Third, we must consider the amount of switched business on the group, for this type of traffic naturally requires more time to operate than direct circuit business, and most groups have varying amounts of switched traffic. You will remember that we obtain the total of the number of direct, one switch, two switches, three or more switches' messages on each group in connection with our working up of the total loads of the groups.

Lastly, we must take into consideration the operating time that is required for calls that are cancelled. We must remember our loads have been developed on the basis of messages, and, of course, our carrying power or capacity must be expressed in the same way.

The operating intervals, involved in handling messages of the various kinds and under the various conditions I have just mentioned, have been developed from analysis covering thousands of service observations. From these, tables have been made from which are computed the average operating time per message, varying conditions applying to individual circuit groups being taken into consideration. Reviewing just what these factors must take into account, we have the following:

1. Number of messages handled direct and switched which we get from analyses of load data.

2. The size of the terminals of the circuit groups which we obtain from population statistics.

3. The proportion of person-to-person and station-to-station business which we obtain from our "Distribution and Analysis of Traffic Report."

With a knowledge of these factors for an individual group and the basic operating time figures for each factor, we are able to determine the average operating time per message for that group.

We realize, of course, that the operating time for some groups will vary considerably from any table of averages that might be developed. We are constantly obtaining special information—principally "Use of Toll Line Records"—by means of which we can locate variations and make necessary allowances.

Let us say, for example, that we have determined an average operating time of four minutes for each message on an assumed group, and usage information has shown this to represent the actual conditions. We now have only to determine our average length of conversation which we get from the "Distribution and Analysis of Traffic Report." Let us say this is five minutes. Adding this to our four-minutes' operating time, we find an average of nine minutes per message to be required on the group under consider-

DREAMS AND SCIENCE

I believe the day will come when you will turn on the facsimile receiver when retiring and in the morning the paper tape will tell the story of what flashed through the sky while you slumbered. You will find road maps, fashion designs, comic sketches for the children, and no end of things; for whatever a pen can portray, facsimile radio will handle.

The quality of the moving-picture screen and broadcasting set the pace that television must follow. The eye and ear will work together to enable man to see and hear to the ends of the earth.

Through radio in the home, man will look and hear around the earth as if the globe were but a baseball resting in the palm of his hand. With television will come a new prosperity; with prosperity will come many new radio surprises presented by men of science.—MERLIN H. AYLESWORTH, Chairman, Board of Directors, National Broadcasting Co.

ation. We call this the total holding time.

Referring to a table of available minutes to determine how many circuits will be required to handle a load of 15 busy hour messages, we find that dividing 9 into a selected figure of 90 minutes—which, say, is available in a two-circuit group—permits us to handle only 10.0 messages in the hour, which is insufficient. We do find, however, on the basis of minutes available for a three-circuit group, that 15 messages of the type we have on our assumed group can be handled.

Estimated Load Figured in Terms of Day's Traffic

Therefore, we find our requirements for the provisional estimate and for our traffic orders to be for three circuits. If there are only two circuits at present and a third circuit cannot be taken from the existing plant, we recommend the third circuit in our construction program. As a matter of convenience, all our records of loads and capacities are expressed in terms of total day, so instead of speaking of our load as 15.6 messages, we use the estimated load of 125 messages for the total day.

Since this total day figure is eight times the busy hour figure, we apply the same multiplier to the 15.6 messages to obtain a total day capacity of 138 messages. This relationship between the busy hour and the total day we refer to as "length of day." We would say this assumed group has an eight-hour length of day.

Sometimes when an additional circuit appears to be needed in a group we find some large item of switched traffic which, if removed, would permit us to get along without the additional circuit. If such an item is large enough and gives some promise of growth, we usually decide to establish a new direct circuit for it, thus eliminating the switch. This is the way most of the new direct circuits are decided upon.

It may also be found that the overload is comparatively small and that some traffic can be rerouted over other circuits with margin, thus postponing the provision of additional circuits. This phase of the situation must be carefully studied so that unnecessary expenditures will not be incurred.

After we have considered each of our circuit groups, we decide what groups must be increased and prepare a tentative list to be forwarded to our engineering department. In collaboration with the engineering department, we make a study of the most economical manner in which these circuits should be provided.

After deciding just how the new circuits are to be obtained, the engineering department makes an estimate of the cost involved to make sure that the facilities can be justified in the light of expenditures necessary to obtain.

Sometimes we find it advisable to eliminate circuits from our immediate plans, especially when the overload of the group will not be excessive and margin exists for handling it on other circuit groups. If it is found that current conditions warrant the provision of the facilities, they are of course provided.

Upon receiving notice that an estimate has been approved, the plant or engineering department orders all materials necessary, having these shipped to convenient points so they may be placed with the least possible effort. During the interval from the time the conclusion is reached that additional facilities are needed up until the time the facilities are actually placed in service, the traffic department maintains current records showing the actual conditions that would exist on the group if they were in service.

If conditions change during this period or up until the time construction is started, to the effect that changed business conditions point out the possibility of deferment or cancellation, either of these two actions are taken.

About 30 days before any given portion of the work is completed, the traffic department—after receiving advice from the plant or engineering department as to just what sections will be made available—first prepares a "toll line order," authorizing them for service. This toll line order does not, in all cases, specify that the new facilities will be used in the circuits for which they are finally intended since some other portion of the construction required may not have been completed.

Furthermore, unforeseen changes in the traffic situation on some of the routes may make it desirable to temporarily use the facilities in some way not originally contemplated. Our aim is to use the plant available in the most efficient manner consistent with our needs.

I have outlined, in a rather general way, the uses made of the point-to-point and overall records of traffic in connection with additions to the plant. This record and periodical check study records are used currently to balance traffic flows over the existing plant. This balancing of loads is really the designation of proper routing directions. Seasonal fluctuations and conditions arising that cannot possibly be foreseen are frequently cared for very satisfactorily by changes in routing directions.

The check studies form a basis of information for limited areas only. They are not a completed record of all the traffic handled in any one area, but are set up to secure information regarding the major items of traffic messages which form the basis of routing direction considerations.

Toll Engineering Not an Exact Science

The foregoing briefly describes the general basis of the engineering in obtaining and currently arranging our toll line facilities. It is not an exact science. With the number of variables that go to make up our engineering, you can readily understand why our pre-determined requirements do not always fit our needs under all conditions.

We must of necessity base our calculations largely on averages, for using maximum conditions would mean a considerably wasted plant when we consider the situation over a long period. Even with our present methods it is sometimes rather startling to see how little paid time we get out of our circuits during the average business day of the year. I think that our methods of determining our requirements are sound.

There is sometimes a tendency, from time to time when difficulty is being encountered in giving a satisfactory service, to first assume that more circuits are needed. While this is true in many cases, it is not always so. Perhaps the grade of operating is not what it should be, or the central office facilities are inadequate or improperly arranged. Perhaps the circuits are being used to handle traffic which facilities were not intended to carry. These are things which must be carefully considered before reaching the conclusion that a given circuit group is overloaded.

In any event, our foundation of choice is the actual number and kind of messages currently handled and from this we get right back to the fact that we must have the results of a good job of tabulating and counting which you folks are furnishing.

My remarks so far have been largely confined to the desirability of having an adequate overall toll plant, although I have mentioned quality of facilities as an essential part of the whole. A toll plant that might have a circuit available the moment each call is offered is certainly not a satisfactory one if the circuits involved are noisy or weak, making the transmission unsatisfactory.

Our customers expect a reasonably fast speed of service over circuits that have good volume and intelligibility with reasonable ease and clarity, with a minimum of interference from noise, cross talk, and other miscellaneous distractions. When we attempt to handle normally offered traffic on a lower level than that, we are offering a service that is not attractive. An unattractive service is certainly undesirable from the standpoint of the progress of any business.

It might be well for us to take occasional inventories of our transmission stock, if we might term it as such. Sometimes our customers are the first to tell us of our transmission shortcomings. When this occurs we can pretty generally assume that we are far out of line. Day-by-day handling and close association with our toll plant facilities might tend to gear our current ideas with a plant that is deteriorating faster than we realize.

So, may I suggest that we schedule rather frequent inventories of the quality of transmission? Maybe we can not do all we would like, in the way of immediate improvement, but at least we can know of what our stock consists. While on this subject it might be well to attempt an outline as to what good transmission should consist of. Let me offer this definition to you:

We should be able to provide facilities to convey the spoken word with sufficient volume and intelligibility over any distance with a maximum of interference of noise, cross talk, side tone, and other disturbances.

This might appear to attempt a good-sized job but, really, the fact is we are now handling practically all our toll business on that basis. The remaining small per cent bears watching for transmission troubles, if left alone, almost without exception, get worse.

From the contacts and information that I received almost daily, I have the distinct impression that any transmission troubles that we now have will get better—not of their own accord but because there seems to be a strong undercurrent of the desire of all companies to carry out plans for improvement.

Whatever immediate objectives we can set up for improvement, I feel sure that every member of the telephone family in Texas has inherently high transmission objectives. When we attempt to handle our business on a basis that includes distractions beyond reasonable bounds, we are headed for trouble; in fact, we are right then in trouble. Let's see what we can do about it before our customers tell us about it.

The Operators' Corner

By MRS. MAYME WORKMAN

Traffic Supervisor, The Illinois Telephone Association, Springfield, Ill.

THE TELEPHONE operator is an important factor in the life of every town, village or city. No. 251

"I HAVE the whole world at my finger tips," was the answer given by a toll operator when the query was put to her: "Do you like to work at the toll board and, if so, why?" How true is her statement!

When you answer a long distance signal the outcome may be a "voice trip" to a nearby town, to a large distant city, to a far distant state or across the ocean. What a world of romance in telephone work! This plays an important part in its fascination—and it really is fascinating. An operator who spends several years at the switchboard will always thrill to the touch of the plugs and keys, the tiny twinkling lights and the smooth sliding cords. This fascination frequently extends to the second generation, for we often find daughters of former telephone operators in telephone exchanges.

The work of the telephone operator at the switchboard is not only fascinating; it is inspiring and uplifting as well. One cannot help but thrill at the thought that she is a part of a system and a service that is a real boon to humanity. The busy fingers, swift and dexterous in weaving the cords to and fro, are in reality weaving a pattern of real life in the community which they serve.

The telephone operator is an important factor in the life of every city, town or village. Her service is indispensable. She is at the beck and call of every man, woman and child who is within reach of a telephone. She is a silent partner in their joys and sorrows, their work and their play. In the busy hours of the day, the dark hours of the night and the early hours of the dawn, she is ever ready to execute their orders, courteously, swiftly and efficiently.

Of course, the operator has her trials and petty annoyances as do most people in every walk of life, but she has her compensations, too.

Quite often, young women, who have some other vocation in mind for the future, apply at the telephone exchange for employment as a stepping stone to the coveted goal only to find that when the other vocation materializes they are so enmeshed in the fascination of the work at the switchboard that they find it impossible to sever their connections. The answer? Perhaps it is because they have the whole world at their finger tips.

Questions from Illinois Operators

1. On a 10 and a 15-cent collect call, if the charges are refused and they say they will pay for the message, what rate do you charge?
2. When a report of *u tomorrow* is received and you also receive the information that the called party is out of the city, do you show the additional information in the report? If so, how?
3. On OUT collect calls, when should the operator put "T" on the ticket?
4. Which of the two following operators have the preference for a circuit to a direct point: Operator "A," having reached her destination insofar as to have secured her number from an information operator, encounters operator "B" at the called point, who, instead of acknowledging the recall, challenges on the circuit by saying, "My filing is (time)?"
5. When you have received a report of BY verified from a distant operator, do you put "verified" following the report of "BY" in the space for reports?

The answers to these traffic questions are presented on page 23.

IN THE NATION'S CAPITAL

By FRANCIS X. WELCH,
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TELEPHONY

IT SHOULD NOT be too far out of bounds for a Washington correspondent to drift down to Charlottesville, Va., where is situated the University of Virginia, and near it, Monticello, the home of its illustrious founder, Thomas Jefferson. Nor does it take much of an excuse to induce this particular correspondent to take the beautiful trip down the Shenandoah Valley and visit the charming surroundings of Charlottesville and other valley cities.

There was particular point, however, in such a visit two weeks ago while the University was conducting its institute of public affairs. Publicity concerning this gathering is so widespread that it is probably unnecessary to state here more than the bare fact that the Institute is a non-partisan, non-sectarian gathering of leaders of various phases of American thought for addresses, round-table discussions and the mutual exchange of ideas.

As usual, the Institute had a session especially devoted to public utility regulation, but it was rather unexciting. Sigfreid F. Hartman, corporation attorney of New York City, was on hand to deplore the encroachment of Federal regulation on the rights of the sovereign states and concluded with the admonition that "if Federal regulation is necessary, and can be justified legally, let us have regulation by law and not by men above the law."

To combat such New Deal heresy, Vice-Chairman Basil Manly of the Federal Power Commission put in an appearance. He pointed one or two fingers of scorn at abuses in public utility industries "back in the good old days when there was no regulation except that of state commissions," and asked if utility industries were not "in sounder shape today when security issues are subject to regulation and control," etc., etc.

Both discussions were interesting enough, but both speakers were simply re-plowing much harrowed ground. Nothing new or startling caught this correspondent's attention except, perhaps, the fact that the usually calm and dignified Commissioner Manly allowed his zeal to prod him into a more lively address than is his custom.

Corporation Lawyer Hartman's devotion to the sacred rights of the states to regulatory autonomy seemed to leave most of the distinguished assembly cold. One learned cleric nearby uttered a Latin ejaculation, "*Volunti non fit injuria*," which he was kind enough to translate very freely to the effect that since the states do not seem unduly alarmed about losing their regulatory birthright under Federal legislation so far enacted, why should utility counsel complain for them? On the whole, this correspondent would have given the verdict to Commissioner Manly on a close decision.

THE NEXT day's session provided more interesting fare, if for no other reason that it brought forth a paper by Edward L. Bernays. Mr. Bernays, for the information of those in the telephone business who may not have heard of him, is just about "the tops" for a public relations expert. He is an expert in propaganda and propaganda methods. A magazine editor recently told this correspondent that he would be willing to wager that Ed Bernays could have all of us running around dressed like Mahatma Ghandi if he had a mind to and the financial backing to turn such a trick.

Mr. Bernays' paper was devoted to the "Constructive Forming of Public Opinion"—in other words, in defense of propaganda. First of all, one must recognize the difference between a public relations counsel and a publicity man or press agent. Many people deny that there is a difference, but Mr. Bernays insists upon it. A publicity man is a journalistic tub thumper. He makes as much noise as he can. He frankly angles for space in the newspapers—frequently with tricks or "stunts" which are crude or passable, according to the ability of the publicity man. If he has bacon to sell, he just keeps beating his publicity drum and shouts: "Eat more bacon; eat *our* bacon!"

BUT A PUBLIC relations counsel never asks a newspaper to print things. Mr. Bernays, it is said, has not been in a newspaper office in years. He makes no noise. If he has bacon to sell, he never mentions bacon. He does not mention anything, because he knows no one is interested in what he mentions.

Well, what would he do about it? First of all he would probably get a number of prominent physicians to say that people should eat heartier breakfasts. Unsuspecting news editors and everybody else will unconsciously assist in creating a vogue for heartier breakfasts on grounds of dietetic necessity. That is all there is to it. If people eat more breakfast, they will eat more bacon.

Take, for another example, the inauguration some years ago of a new long distance telephone service between the United States and South America. Why waste money and effort on full page advertisements, brass bands, and speeches by company officials which newspapers will print with the greatest reluctance?

Instead, let the President of the United States talk to the President of Peru, and the newspapers will eat it up. Incidentally, of course, practically every literate person in the country realizes that a new long distance telephone service has been inaugurated.

This is what Mr. Bernays would probably call "dramatic high spotting." Surely TELEPHONY readers will recall the amazing festival that took place in 1929 upon the occasion of Light's Golden Jubilee. That was a job generally accredited to Mr. Bernays.

We remember how the story of Edison's invention of the incandescent lamp was re-enacted in Dearborn, Mich., with Edison himself, Henry Ford, and ex-President Hoover playing leading roles, while droves of industrialists and financiers played the part of villagers and supers in the cast, and radios and newspapers fought for the privilege of broadcasting it. It was a great show and everybody enjoyed it, including the distinguished actors.

The fact that it satisfied the incidental purposes of providing favorable publicity for the electrical industry, did not detract from the deserved celebration of an event of historical consequence. That is how Mr. Bernays works.

Specifically, he deals with mental groups—groups arranged according to various tastes: millions of women who are fashion-minded; millions of utility bill worriers; millions of health worriers. You cannot always reach these people by mail, or direct

appeal. They have leaders—"group leaders," as Bernays would say—and through these leaders they can be reached, often without knowing it themselves.

THIS METHOD has sometimes been called by less delicate advertising men "snob appeal." Make the fifteen-dollar-a-week typist ashamed of her nails by showing her a magazine picture of some fashion leader with an exquisite manicure, and she will go without lunches for a week to pay two dollars for something or other that may not have cost more than two cents to manufacture. It is a powerful weapon, and, in the hands of the unscrupulous, its use can be almost cruel and inhuman.

Mr. Bernays defends this control of public opinion by pointing out that the public would be at the mercy of the whims of fortune anyhow. A chance revival a few years ago of an old play in Paris sent every woman in America scampering to the millineries for that outlandish atrocity, the Empress Eugenie hat. There was no plan behind that, but it nearly wrecked the hat-making industry.

Some years ago Irene Castle, the then reigning dancer, bobbed her hair, and the consequent disruptions to commerce are still being felt. Some preachers claimed that it even affected our national morality. How, asks Mr. Bernays, can you blame the intelligent business man who has millions invested, with thousands depending on him for jobs, for attempting by intelligent propaganda to give these shifting tides of taste a direction which he can follow without loss?

BUT HERE this correspondent has been going on for paragraphs about the astonishing Mr. Bernays without getting down to his address at Charlottesville. It goes to show how this expert can sell himself, even to such a publicity-calloused person as a professional writer. One stinging paragraph contains the gist of Mr. Bernays' remarks at Charlottesville:

> Propaganda is the voice of the people in the democracy of today. Freedom of propaganda is as important as the other civil liberties—freedom of worship, freedom of the press, freedom of speech, freedom of radio and freedom of assembly. The use of propaganda provides, for the people, an open forum for the conflict of ideas and for the competition of the market place, which are integral parts of our present-day system. Propaganda offers everyone a free choice as to the basis of the course of action to be pursued. With only one kind of propaganda, only one kind of special pleading, we are left in the position of the individuals in a Fascist or Communist state, who have no free choice, and who must accept the edict of those who are in power.

In brief, it is silly to condemn propaganda as such. People who say they object to propaganda are invariably people who object to the other fellow's propaganda. The elimination of propaganda is impossible. We live in a daily war of propaganda. We can't walk down the street two blocks without streams of propaganda assailing our ears, eyes, and nose, consciously or subconsciously affecting our judgment.

The battle of propaganda is waged every time you spend a cent. Says Mr. Bernays: Your choice of underwear—cotton, silk, or rayon—may spell success or failure to a community in Japan, a Texas farm, or a mill in Cumberland, Md.

The acceptance of the automobile, the radio, the X-ray, therapeutic and prophylactic medicines, utility services, peace, war, democracy or republicanism have all been accelerated by propaganda. The principal thing to keep in mind—as was pointed out by Professor Harold D. Lasswell, of the University of Chicago, who was on the program with Mr. Bernays—is to keep the channels of propaganda free and the propaganda itself reasonably sound.

Vicious propaganda can, indeed, have disastrous consequences, but suppression of opposing propaganda is probably the quickest way of allowing vicious propaganda to incubate. "Give light," says the Scripps-Howard newspapers' motto, "and the people will find their own way."

COMING CONVENTIONS

The Illinois Telephone Association, Pere Marquette Hotel, Peoria, September 17 and 18.

United States Independent Telephone Association, Hotel Stevens, Chicago, October 13, 14, 15 and 16.

IS THE Bell legal department going soft? There are repeated rumors to that effect running through the Capital city as the result of recent important settlements by Bell telephone subsidiaries of protracted rate cases, notably in Michigan and New York. A confidential "Washington letter" service devoted to utility matters recently stated:

"This situation seems to mark a notable reversal in policy on the part of an organization which (rightly or wrongly) had a rather widespread reputation for rarely compromising, where it felt that its rights were invaded, until the last appellate remedy was exhausted. In any event, most of the long, drawn-out rate cases were telephone cases."

In the past this litigious policy has been more or less successful for Bell companies, but it gave utility regulation a black eye, in the opinion of liberal critics. During the last three years, however, as the result of two adverse decisions in the U. S. Supreme Court, the Bell legal tactics have not been so successful. It may be that the Bell high command has decided to back up state commission regulation, even at the expense of financial sacrifice in certain territory.

In any event, Washington observers are awaiting with great interest to see if the Bell will appeal the recent adverse decision by the Ohio Supreme Court to the United States Supreme Court. That case involves over eleven million dollars in refunds with interest. If the Bell is willing to swallow that one, it must be true —"what they say about Dixie."

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House Destroyed by Fire; No Way of Calling for Help

Not long ago the Lapeer County (Mich.) Press published in its Fostoria column an account of a fire which destroyed a farmhouse. The owner had no telephone and no near neighbor had a telephone by means of which the city fire truck could be summoned. The newspaper account tells the story of a misfortune that might have been averted:

"The house on the Mrs. Ella Myers farm, 2¼ miles east of town, burned to the ground Saturday afternoon. Mrs. Myers' daughter, Mrs. George Bheringer, and family, lived on the farm. They think a spark from the chimney caused the fire and as they had no 'phone and no near neighbor had a 'phone, by the time word was got to town for the fire truck the house was burned down.

Most of the furniture downstairs was saved. The daughter's family had no insurance on their furniture."

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Recent Prices in the Metal Markets

New York, N. Y., July 27: Copper—Quiet, electrolytic spot and future, 9.75c per lb.; export, 9.45@9.47½c. Tin—Weak, spot and nearby, 42.00@42.12c per lb.; future, 41.25@41.37c. Iron—Quiet, No. 2, f. o. b. Eastern Pennsylvania, $20.50 per ton; Buffalo, $19.50; Alabama, $15.50.

Persistence And Safety Programs

By JAKE THE LINEMAN

MORNIN' BUDDIES! It's been a long time since we've had a safety "conflab," so let's find a cool, shady spot and relax for a while. It has been truly said that the gentlest and least noticed efforts, if repeated persistently enough, will have their effect in due time. Not so many years ago a group of students visited a gun factory. There they saw a great bar of steel, eight feet in length and weighing 500 pounds, suspended vertically by a very delicate chain. Near the bar of steel was a common bottle cork suspended by a silk thread.

After fully describing the bar of steel to the students, the professor then announced that he was going to prove that the small cork could set the bar in motion. To the students such a feat seemed impossible and they watched the experiment with doubting eyes.

The cork was swung gently against the steel bar and the bar remained motionless. Again and again the cork gently slapped the 500-pound bar of steel. At the end of ten minutes a sort of nervous chill ran over the bar. Ten minutes later the chill was followed by nervous vibrations and at the end of another ten minutes the persistent cork had the great bar swinging like the pendulum of a clock. Persistent working toward a definite goal had accomplished that which had appeared impossible.

Since the beginning of time, persistence and perseverance have accomplished great things for mankind. Many things which we take for granted, the things we have and use every day, the things we expect, are the result of some man's persistence and perseverance. The persistence of man has been responsible for the progress of civilization. We entered the 19th century with a horse and buggy and we now have the airplane, the automobile and streamlined trains. The scythe has been replaced with the mowing machine. The painter's brush has received competition from the camera, lithography and color photography. The old beacon signal fire is a thing of the past and in its place we have the telephone, the radio and wireless telegraph.

The slow-moving sailing ship is gone and in its place we have magnificent steamships sailing the seven seas. Unalleviable pain has been overcome with chloroform, ether, gas, and antiseptics. Our average duration of life has been raised from 30 to nearly 50 years.

Behind each improvement was some persistent human being who had an idea and stuck by his guns until he had reached his goal. Suppose Bell and Watson had quit their experiments before the telephone was perfected? Suppose Wright had kept his first plane on the ground? Suppose it was man's nature to give up the hard tasks and be satisfied with doing only the easier jobs?

If Bell, Watson, Wright and all other inventors had given up when the seemingly impossible presented itself, our civilization would be going backward instead of forward.

Persistency has its place in the safety movement as well as in any other progressive movement. The safety program of your company was inaugurated with the idea that it would some day lead to the elimination of accidents. Last year safety programs, now in force by nearly every company and community, saved over 200,000 lives.

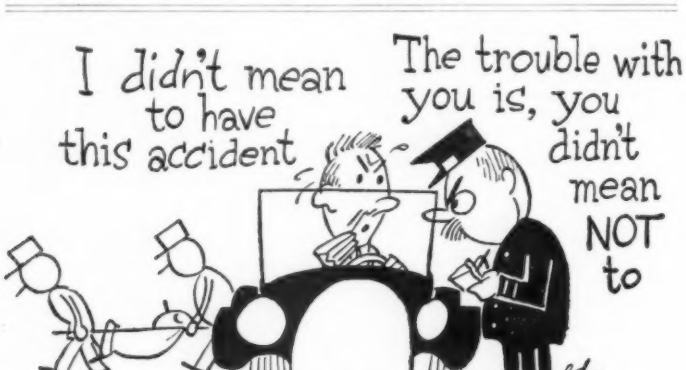
Persistent bulletin boards, house organs, safety meetings, safety committees, safety orators, safety lessons and safety supervisors saved those lives. And the same persistent efforts are going to save more lives every year until we finally have Old Man Accident starving to death for want of human arms, legs, eyes and lives.

Many safety supervisors have been accused of preaching too much safety. Buddies, they can't preach too much! Accidents are still happening, aren't they? Your company probably had a few last year, didn't it? Well, as long as one of the ornery things known as accidents keeps bobbing up, your safety supervisor has plenty of reason for preaching safety and you have plenty of good reasons for listening to his advice.

There's a story about John Wesley, which seems to prove that persistence pays. Once in Wesley's childhood he overheard his father say to his mother: "How could you have the patience to tell that blockhead the same thing 20 times over?" Wesley's mother replied: "Why, if I had told him but 19 times, I should have lost all of my labor."

Buddies, there's a good lesson in that little anecdote from the life of John Wesley which we should remember before we apply the term "preacher" to our safety supervisor. We're not blockheads—but a lot of us do need constant telling about safety.

Look how many times we have been told *not* to climb poles without testing them, *not* to wear our climbers while doing ground work, *not* to heat paraffin over a certain temperature, *not* to throw materials and tools from poles and *not* to enter manholes without testing them for gas—and yet look how many telephone employes had accidents last year *because they did just what they had been told not to do.*



PAVED WITH *NO* INTENTIONS

JAKE SAYS: "Nobody Intends to Have an Accident. As Long As People Say 'I Didn't Mean to Have This Accident,' the Safety Supervisor Has Plenty of Reason for Persistently Sticking to His Job of Getting His Men to Do Their Work Safely."

Constant hammering away through every possible medium is a safety supervisor's only method of keeping the employes of his company up on their toes when it comes to preventing accidents. Constant hammering means persistent hammering. And the hammering must come from both ends. The safety supervisor has to hammer away at safety or all of his labor is lost. The employes must constantly hammer away at safety and make it fit their own special job requirements or they're running a losing race against Old Man Accident.

Wal', I had better close shop for today. Remember:

"When you call a doctor to cure your aches and pains and then fail to take his advice or his medicine, you lose money and run a chance of losing your life. When you fail to heed your safety supervisor's warnings, your company loses money and you take a chance on losing your life."

Nebraskans Discuss REA Problem

NEW INTEREST in the question of inductive interference, especially as it concerns the rural lines of Nebraska telephone companies where there are many miles of grounded lines, has been given by the contemplated construction of thousands of miles of rural transmission lines by the private power companies under provisions of the REA.

This led to a recent conference at Lincoln, at which the Nebraska State Railway Commission was represented by V. A. Hollister, its engineer; the Lincoln Telephone & Telegraph Co. by M. T. Caster, general plant superintendent, and the Northwestern Bell Telephone Co. by F. R. Kappel, plant engineer.

Mr. Caster dealt directly with the effect of rural electrification on telephone lines, and Mr. Kappel talked on the measurement of noise on telephone circuits and its analysis. Prof. F. W. Norris of the University of Nebraska stated the fundamentals and theoretical considerations of the problem.

The meeting was attended by electrical engineers representing the rural electric power districts, the private power companies and telephone and signal companies. After long discussion these general conclusions were drawn by those present:

1. Inductive interference arises from two sources: Magnetic fields, which are roughly in proportion to currents on the power wires; and electrostatic fields which are in proportion to the voltage to ground on the power wires.

2. Physical separation is the most effective means of minimizing inductive effects. Where road width separation only is obtainable, parallels should be limited to least possible mileage. In general, inductive effects are proportionate to power line voltage. Thus longer parallels are permissible with lower voltage lines.

3. Some fundamental factors which enter into the problem and which must be considered previous to construction, are: Generator wave shape; generator connections, delta or star; transformer bank connections—always to include one side delta-connected or the equivalent with a delta tertiary winding; sizes of transformers sufficient to preclude overloading, and design of the transformers to maintain low iron saturation.

4. It was brought out that certain types of apparatus on consumer's premises affect the wave shape and impose harmonic voltages on the power system which lead to inductive interference.

5. In the design of both transmission lines and rural electrification networks or systems, routing is a primary problem to be studied by both electrical and signal interests. Often by improved routing signal line parallels may be avoided or shortened so as to greatly reduce the work and attendant costs of interference mitigation.

6. Ground return telephone lines cannot be expected to give satisfactory service when paralleled at road-width separation by power lines of the character usually employed for rural electrical distribution in Nebraska.

7. Theoretically, and with an ideal balanced power system and balanced paralleling telephone system, the delta non-grounded system should give minimum inductive interference.

8. Ground return ringing circuits on rural telephone lines are in general to be avoided. High impedance telephone apparatus may permit use of grounded ringing circuits in some instances.

9. Probably a 12900/6900 widely-extended system, either multi or unigrounded, would be no more productive of interference to telephone lines than a 6600-volt delta-connected system carrying numerous single-phase taps when such taps are directly connected. Insulating transformers may be helpful in noise reduction in the latter case.

10. Whereas drainage coils may be used to reduce electrostatic voltages on telephone lines, their use may be expected to increase noise effects due to longitudinal current flow acting across series resistance unbalances.

11. Theory and practice indicate that the larger the number of transpositions on the telephone system, the more effective the elimination of noise, assuming of course proper and accurate placement of the transpositions.

12. A residual current is the instantaneous difference in line currents. A residual voltage is the instantaneous difference in line-to-ground voltages.

13. The telephone instrument and the ear are most sensitive to frequencies on the power circuit approaching 1100 cycles per second. Sixty cycles cause little serious interference. It is, therefore, the third (180 cycles) and higher, predominantly the 11th to the 25th harmonics, which give the serious inductive interference.

14. In the practical case, it is not always possible to eliminate inductive interference on farm telephone lines.

15. The degree of inductive interference is inversely as the number of noise units found in the telephone receiver most unfavorably situated. Whereas 1,000 noise units might be intolerable, 400 units might be tolerable, and 200 noise units might be considered acceptable service on farm lines.

16. Where an important telephone or toll lead is necessarily paralleled by electric supply circuits, the latter should preferably be so arranged as to consist of several short rather than one long parallel if the sum of the lengths of the short parallels is less than the length of the one long parallel.

17. It is impractical to interpose more than two repeating coils between a central office and a telephone subscriber.

18. Lines of the telephone industry can be distinctly divided between local and long distance service. Lines of the electric power supply industry can be divided between local service lines and transmission lines. Transmission lines are "back-bone" lines from plant to town or from town to town.

The long distance, or toll leads of the telephone industry should not occupy the same highways as the transmission lines of the power industry. In planning the indicated separation, it must be understood that the local telephone wires will necessarily parallel transmission lines and local electric service lines will necessarily parallel long distance telephone leads.

Plant Men "Swap" Ideas

Lightning Knocks Lineman from One Pole to Another

While Frank J. Baer, a lineman of the Southwestern Bell Telephone Co., was up a pole in Hutchinson, Kans., recently a storm cloud darkened the city. Although his foreman distrusted the cloud—for in dry weather, even cloudy skies fail often to deliver rain—he called Baer to come down before it stormed.

The lineman was up a new pole. As he unhooked his safety belt, lightning struck the pole, knocking him onto the crossarm of an old pole alongside it, which was to be replaced.

Baer was unconscious momentarily, but before members of his gang on the ground could climb to his rescue, he recovered consciousness and descended, none the worse for his experience, save for a small burn on his leg.

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A Lift Truck for Moving Cable Reels

While heavy reels of cable or wire may be moved by rolling "on its own," it is not advisable that this method be used. For one thing, it is not safe, for it is not easy to guide the reel. Also, it's not a one-man job to move a loaded reel; three or four men are needed, especially where the floors are rough. Rolling a heavy reel over a good floor is not done, for serious damage to the floor may follow.

The heavy-duty Yale cable-reel truck, shown in the accompanying illustration, is a handy tool—always ready to carry a big reel wherever desired, and with one man doing the complete job. Since this type of truck is designed to lift loads ranging up to 10,000 pounds, it is highly desirable that the truck be of the multi-stroke type. The model pictured has an eight-motion lift; that number of easy forward strokes on the handle elevates the reel three inches, and it is ready to be hauled away.

To assure long and smooth service, a rack and pinion lift mechanism is built into the truck. This guards against sideway which otherwise would soon weaken the frame. Two hydraulic release checks drop the load to the floor quickly and smoothly. Ball-bearing steel wheels provide easy pull. A rear wheel brake, very handy for locking the truck when cable is being unreeled, is an important feature.

New Type of Yale One-Man Hand Lift Truck for Handling Cable Reels.

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Nine Miles of Cable "Jumping" in High Wind

A high wind which followed a sleet storm early last spring in Kansas caused a section of aerial cable along a highway southeast of Wichita to jump or vibrate with such violence as to cause a total of 1,560 injuries to the lead cable sheath.

The dangerous condition of the cable was reported by the driver of an early morning milk truck, who expressed the opinion that the cable would surely fall into the highway unless something were done about it, acording to the story related in the Southwestern Telephone News.

Investigation proved that the truck driver had not exaggerated the seriousness of the situation. A section of 200-pair, 19-gauge of aerial cable approximately nine miles in length, coated thinly with ice and tossed by a wind of from 12 to 40 miles an hour at a temperature of four degrees below zero, was jumping or vibrating with a spread of four feet from the crest to the trough of the undulations.

All available Southwestern Bell plant men were immediately summoned to the rescue and after 700 man-hours of labor had been put in, the cable was brought to rest, but not before the messenger strand had been broken completely at one point and at various locations one or more strands had been severed at the cable clamps on the poles.

To stop the "jumping" of the cable ropes and wires were placed over the centers of the spans and tied down to fence posts, culverts or adjacent poles. Injuries in the cable sheath were marked with tape to be treated later by the arc-welding process.

The cable mostly affected was 3½ miles in length, consisting in the main of 200-pair, 19-gauge, with a small section 100-pair, 19-gauge cable. This section had been in place six years and was fairly free from excessive slack. It had been equipped with two cable shields on each side of the poles early in 1935.

In some cases, the terrific pounding near the poles was severe enough not only to break the tie wire holding the shields, but the bottoms of the zinc shields were actually broken through, leaving the remnant hanging from the strand.

In a 50-pair cable, extending east and west and parallel to the 200 pair, but three miles to the south of it, the Boston hangers were practically all cut through or broken at the bottom of the band, allowing the cable to drop, while the hangers remained attached to the strand.

The breaking of hangers and clips probably prevented the cable from being cut through at the poles, for it allowed from three to six feet of cable to hang unsupported near the poles. That this greater flexibility was of some value, was indicated by the fact that ring cuts were deeper near the center of spans than near the pole.

Injuries averaged five to each span in the nine miles of cable. No conductor failures were encountered, even though the lead sheath was pulled back from the core for six inches at the point where the strand was broken, and although breaks occurred at other points.

The Monotype "Cordless"—

The Ideal P-B-X for the Small Business User

The Monotype Cordless P-B-X is furnished in both 10 line and 16 line sizes, each with 5 connecting circuits and a maximum of 4 trunk circuits. Both sizes are furnished partially or fully equipped, as desired.

Business subscribers who have a use for manual operation like the Monotype Cordless P-B-X, both for its compact, attractive cabinet, and its simple, easy operation.

Telephone companies like it because it has the same simplicity of design, and the same compact, sturdy construction which identifies the larger Monotype manual switchboards. Monotype switchboards — all of them — have a reputation for long life and freedom from maintenance, earned by adherence to high standards of quality throughout.

The experience of scores of telephone companies has shown that to standardize on Monotype P-B-X's means greatest subscriber satisfaction at lowest cost. It will pay you to use them, too. May we quote you on your next requirements?

AUTOMATIC ELECTRIC

TELEPHONE, COMMUNICATION and SIGNAL PRODUCTS

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★

Above: The Type 34A3 self-contained desk Monophone. No bell box is required for this model, since all parts are contained within the compact, molded base.

At Left: The Type 35A5 wall-mounting Monophone. This, as well as other Monophone models, can be furnished for either manual or automatic operation, and also in a variety of art shades with chromium or gold-plated trim. Send for descriptive color circular.

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AUTOMATIC ELECTRIC

Monophones

HAVE ESTABLISHED MODERN TREND IN COMPACT, SELF-CONTAINED DESIGN

e two Monophones have established themselves as the style leaders in present-day phone design. They have achieved a new compactness, a new gracefulness of line omplete sympathy with modern artistic trends, yet in no sense displeasingly radical.

wonder subscribers say they <u>enjoy</u> using these instruments, so well does the handset the hand, so perfect is its balance, so clear and natural the transmission. Telephone agers are finding that the introduction of these Monophones creates an intense interest desire in the minds of the public, which can be advantageously utilized to sign up contracts and renew old ones.

omatic Electric Monophones have given new life to the telephone business since these models were presented to the trade. Evidently telephone companies are finding excellent both as a sound investment in modern plant equipment and as an active ulant to increased income. Why not try them in <u>your</u> territory?

AUTOMATIC ELECTRIC

EPHONE, COMMUNICATION AND SIGNALING PRODUCTS

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Exterior View of the Marine Radio-Telephone Shore Station at Green Harbor, Mass., Which Received by Means of the Captain's Own Voice the News That the Fishing Trawler Gertrude M. Fauci Had Sprung a Bad Leak and Was Taking in Water Faster Than It Could Be Pumped Out, and Would Soon Sink.

Radio-Telephone Effects Rescue Of Gertrude M. Fauci Crew

SINKING TRAWLER'S captain telephones news of ship's plight to marine technical operator at Green Harbor, Mass. The message was broadcast repeatedly throughout the day and by late afternoon the Lemberg of Halifax, after hearing the distress call, reaches the sinking vessel and rescues the crew

"WIEP calling WOU. . . . We have sprung a bad leak . . . we need assistance immediately. . . ." Captain Patrick McHugh was talking by marine radio-telephone through a bitter wintry gale across some 400 miles of storm-lashed North Atlantic, from his cabin aboard the trawler Gertrude M. Fauci, to Albert F. Coleman, the marine technical operator of the New England Telephone & Telegraph Co., on duty at Green Harbor near Boston, Mass.

Not the dots and dashes of the traditional S O S in telegraph code, but Capt. McHugh's own voice was bringing this cryptic message ashore by means of the Western Electric radio-telephone equipment on his vessel. Operator Coleman, acknowledging the call, immediately inquired "What is your location, Capt. McHugh?"

"Our present location is longitude west 62-15, latitude north 43-40 and we're drifting southeast at about two miles per hour," replied Capt. McHugh, and save for the tenseness of their voices, these two spoke with each other as though they were holding a business conversation over a land telephone line, instead of discussing a matter of life and death across the open waters of the Atlantic.

Glancing at his chart, Mr. Coleman determined that there were no other vessels in the immediate vicinity of the Fauci equipped with radio-telephone, and he transferred the call through the marine operator in Boston to the Coast Guard headquarters in that city. Captain McHugh continued his report to the Coast Guard with details of his plight.

Water was rising in the hold faster than his desperate crew could pump it out—and it was only a question of hours before the doomed vessel would sink into the cavernous sea. In such a Nor'wester his men could not hope to survive long in an open boat.

The Coast Guard headquarters sent the S O S distress message out over the troubled Atlantic by radio-telegraph in the hope that some vessel near the stricken Fauci might hear and go to her assistance. The cutter Cayuga, engaged in ice-breaking off Cape Cod heard and could probably reach the Fauci in 24 hours.

This reassurance was radio-tele-

Scene on Deck of the Gertrude M. Fauci. The Western Electric Marine Radio-Telephone Installed for Convenience in the Pursuit of the Trawler's Fishing Business, Proved the Means of Saving the Lives of the Members of Her Crew.

phoned to Capt. McHugh. "Doubt if we can last that long," he replied, and asked to have the radio beacons operated at Sable Island and on Sambro Lightship. Using his radio compass, he was then able to give more accurate information concerning his bearings.

As the afternoon wore on, the news spread by telegraph and teletype. Newspaper headlines screamed the plight of the Fauci, broadcast stations interrupted their programs to flash the word across the country, and Charles M. Fauci, owner of the vessel on his way to New York, picked up the startling announcement with his automobile radio set as he was passing through Springfield, Mass. He immediately attempted to charter a seaplane to go to the aid of the trawler, but shortly came the encouraging news from the Navy Yard radio station at Boston that an unidentified boat had reported reaching the Fauci and was standing by.

Capt. McHugh's voice again spanned the open sea to announce: "The trawler Lemberg, of Halifax, is standing by 300 yards from us . . . we'll have to leave soon if we don't want to go down with the Fauci. . . . Thanks for your help." He was standing in two feet of salt water as he spoke, the engines and generators disabled, but the telephone batteries still operative.

Member of the Crew of the Gertrude M. Fauci Talking With His Family Ashore Over Vessel's Original Equipment, Subsequently Replaced by Latest and Most Modern Type of Western Electric Equipment.

"We're glad to have been able to help you, Captain. Goodbye and good luck."

That night the Fauci sank. But Capt. McHugh and all his men were safe aboard the Lemberg to be subsequently brought ashore by the Coast Guard cutter Cayuga—thanks largely to the telephone that goes to sea in ships with these stout-hearted New England fishermen.

Interior View of the New England Telephone & Telegraph Co.'s Marine Radio-Telephone Station at Green Harbor, Near Boston, by Means of Which Telephone Calls Originating on Shore Are Linked to Ships by Radio - Telephone and Calls Originating on Board Ships Are Linked Directly to the Shore Telephone System.

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Illinois Bell Earnings for Six Months of 1936

The financial statement just made public by the Illinois Bell Telephone Co. for the first six months of this year shows an increase of $1,778,618 in net income over the same period in 1935. The revenues totalled $40,153,271 as compared with $37,430,592 for the first half of last year. Expenses, including depreciation and taxes, were $33,088,659, as compared with $31,524,005 in 1935. Interest amounted to $952,230, as compared with $1,572,823 for 1935.

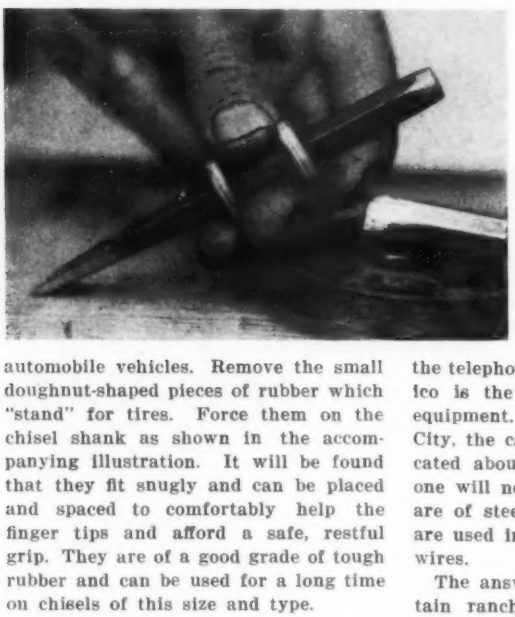
The company's net income amounted to $6,112,382, as compared with $4,333,764. After the payment of dividends in the amount of $6,000,000 there was left a balance of $112,382. Last year, after the payment of dividends of $4,500,000, there was a deficit of $166,236. An explanation accompanying the statement of earnings draws attention to the fact that no provision is included in respect of the undistributed profits tax imposed by the revenue act of 1936.

Here, There and Everywhere

Useful Ideas: Finger Grip For Small Chisels

The small three-eighths-inch and one-half-inch octogonal-shaped steel chisels are mean things for the fingers to grip and retain hold of when in use. The work done with them invariably consists of jobs of chipping and trimming in close and almost inaccessible places. The finger joints tire and the hold weakens, the chisel often slipping away to drop into places from which it cannot be recovered or perhaps into moving machine parts where it really does do some damage.

To eliminate these difficulties, procure one of the common five-cent toy automobile vehicles. Remove the small doughnut-shaped pieces of rubber which "stand" for tires. Force them on the chisel shank as shown in the accompanying illustration. It will be found that they fit snugly and can be placed and spaced to comfortably help the finger tips and afford a safe, restful grip. They are of a good grade of tough rubber and can be used for a long time on chisels of this size and type.



Small Rubber Tires Taken from Toy Automobile Make Excellent Finger Grips for Small Chisels Which Are So Difficult to Grip for Any Length of Time.

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International Language and Mexican Coin Box Problems

Telephone operators of Juarez, Chihuahua, in old Mexico, are often required to be interpreters as well as to handle calls in two different languages. The language problem is only one of a number of unusual and interesting ones which have been solved in Mexico.

Keeping stride with rapid industrial developments since Mexico declared her industrial independence from the United States, telephone usage is rapidly increasing. Juarez now has about 500 telephones. Long distance usage has increased ten-fold since direct lines to Mexico City were established. Formerly, such calls had to be made from El Paso, Texas.

Due to the low value of the peso (about 27 cents on the dollar) there is a great deal of international business between Juarez and El Paso. Many El Pasoans even buy their groceries in Juarez. This commerce creates a good deal of telephone business across the border.

Most of the people calling the United States from Juarez speak English as well as Spanish. But plenty of Americans calling Juarez do not speak Spanish, so the Juarez operators have to speak both languages with equal fluency in order to complete the long distance calls. And, if an American calls a Mexican who cannot speak English, it falls to the lot of the operator to interpret the message.

Another interesting fact concerning the telephone situation in northern Mexico is the need for unusually sturdy equipment. Traveling to Chihuahua City, the capital of Chihuahua state, located about 250 miles in the interior, one will notice that all telephone poles are of steel and that aluminum cables are used in place of the regular copper wires.

The answer lies in the fact that certain rancheros have "taking" ways. This is Villa country and the people apparently acquired that habit from him. Were wooden poles used, the probability is that these rancheros would have some excellent fires without going very far to gather fuel. There is equal danger that copper wires would be taken down and sold for other purposes. Furthermore, the wild nature of the country in this district makes inspection difficult.

In Mexico City, strange to relate, there just aren't any coin box telephones. Instead, the instruments used for public purposes are private business telephones, the service of which is sold by the merchants at the usual five-cent fee. Every little shoe-shine parlor or other small business establishment seems to have a telephone and the proprietors all make good money on the service. The difficulty of people leaving without paying for their calls doesn't seem to occur. People are accustomed to the system and pay readily.

One of the main reasons why coin boxes haven't been installed is that five-cent pieces—"five centavos" in Spanish—are made in three different sizes. One is a large copper coin about the size of our half dollar; another is a piece a little smaller than our nickel and the third is about half the size of a dime—the latter of silver. However, the International, which owns the Erickson company there but continues to operate it under the old name, and also operates its own system, is reported planning to install coin boxes for one size of coin.

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Some Paragraphs From My Daybook

BY THE SALES MANAGER

Many telephone company managers are awakening to the fact that complete recovery of the telephone industry can be attained only as members of the industry do the work. All the laws or codes in the world cannot turn the trick. The individual himself must obtain the desired result.

At a sales conference the other evening the sales manager, speaking on the importance of "ads" to any business, ended his talk by saying: "The term 'ads' defines itself"; and then upon the blackboard he wrote:

A—all industry depends upon
D—demand created by
S—sales publicity.

The depression had been in full sway for some time when one of our larger cities decided upon an experiment. Ten men were given $10 apiece. The men were instructed to go to various stores and buy an article selling for 50 cents. Each was instructed to buy whatever additional merchandise the salesman suggested to him and to continue spending until all of his money was gone.

In a short time the men returned with $94 out of the original $100—and their average purchases were only 60 cents apiece! This experiment proved beyond a doubt that most of the salesmen contacted were "depression-minded" and afraid to sell. As a result the cash registers of the stores visited by the ten men, each with $10 to spend, jangled with only 60 cents from each whereas they might have danced to the tune of ten of Uncle Sam's greenbacks. Is the same attitude keeping your fountain pen idle and your order book closed?

Operators often feel that because they are confined to the board most of the time they do not have the chances of selling telephone services that outside

employes have. However, operators can make sales by keeping alert to the many opportunities which appear to those who keep their eyes open.

Not long ago an operator entered a cleaning establishment and noticed that the manager was having a hard time hearing over the telephone because of the noise of the street traffic. A tactful suggestion on the part of the operator sold a business extension for the rear of the establishment.

On another occasion this same operator noticed that her girl friend, who lived in a rooming house had to go downstairs and into the landlady's dining room to answer her telephone calls. A short sales talk sold a residence extension.

These two cases prove that the operator, who is as alert to make sales as she is to keep the calls moving, can make sales.

▼ ▼

Answers to the Traffic Questions on Page 11

1. The person-to-person rate still applies on the call.
2. All information supplied by the called station concerning the called party is entered on the ticket, in code, if a code is provided. In all other cases the information is written out in full in sufficient detail so that another operator who may have occasion to work on the call will be able to know what information has been received concerning the called party.
3. When the call is handled two-ticket method, the TTC TX taking the ticket and timing the call, her ticket being used for billing.
4. Operator "A" is entitled to the circuit inasmuch as she has passed a call and her order has been acknowledged. In this case operator "A" should say, "I have passed a call." Operator "B" should say, "Right," and permit operator "A" to use the circuit.
5. Upon receiving a report of "By verified," enter "by ver (time)" under the last entry on the ticket.

Nebraska Companies Report on Telephones

A total of 216,596 stations were being operated by telephone companies in Nebraska that have common carrier standing at the close of 1935, as reported to the Nebraska State Railway Commission. These were divided as follows: Business, 62,814, as compared with 60,977, twelve months before; 114,498 residence stations, compared with 112,020; 39,278 rural, as compared with 37,697; 20,709 switched stations, as compared with 20,751.

Of the increase in total stations of 5,892, the Lincoln Telephone & Telegraph Co., Lincoln, supplied 1,508, and the Northwestern Bell Telephone Co., 2,955, leaving but 1,429 as distributed between the other 109 Class A to E companies, and 31 Class F companies. A small number of the companies reported small losses, and the gains of most of the others, outside of those operating two or more exchanges, were small.

The same situation is shown in the figures covering rural stations. At the end of the year, there were 40,083 rural stations served by the common carrier companies. Of this total, the Lincoln company supplies 12,869, and the Northwestern Bell company, 4,978. During the year there were added 1,736 rural stations. Of this number, the Lincoln company added 808, and the Northwestern Bell company, 244.

Special efforts were made by most of the companies to secure the return of farmers to service, the great loss being in this field and reduction in number of farm telephones carried with it cancellation of many small-town subscriptions, because these are natural trade centers. At the end of the year there were 16,000 less rural stations than reported eight years before.

In addition, the companies switched, in 1935, a total of 20,709 stations, which is 42 less than at the end of the previous year. These represent stations owned by farmers' mutual companies that sell only to members and stockholders, and whose chief expense lies in the switching charge, which averages 50 cents a month.

Besides the two large companies, there are several corporations operating two or more exchanges. This includes the Hamilton County Farmers Association, with headquarters at Aurora, 2,282 stations; Nebraska Continental Telephone Co., of Columbus, 12,103 stations; Central Nebraska Telephone Co., of Grant, 1,010 stations; Southeast Nebraska Telephone Co., Falls City, 2,189 stations; Nebraska Central Telephone Co., Gibbon, 1,103 stations.

Citizens Telephone Corp., of Blair, 686 stations; Farmers Telephone Co., of Dodge County, North Bend, 1,215 stations; Northwestern Telephone Co., of Blair, 272; Platte Valley Telephone Co., of Scottsbluff, 3,774 stations; Western Telephone Corp., of Nebraska, 1,954 stations; and the Glenwood Telephone Co., of Blue Hill, 1,278 stations.

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Telephones Increase in Alberta, Canada

Through to the end of May this year, the Alberta Government recorded an increase in the number of telephones installed since July, 1935, according to a statement issued by A. Higgins, district commercial superintendent. As of June 9, 17,300 telephones were operated in Calgary as compared with 16,942 in July last year. There was an increase of 264 telephones in May, 1936, compared with the corresponding month last year, and an increase of 12 was shown over April, 1936.

In the district which surrounds Calgary, 7,903 telephones are in operation, compared with 7,209 in May last year, and 7,866 in April, 1936.

Increases also were reported in the number of long distance calls during the month, District Traffic Superintendent Frank Jackson said. A total of 166,714 long distance calls were made in May, 1936, compared with 162,189 in May last year. There also was an increase of 9,417 over April, 1935.

Total calls in the northern district during the month were 73,556, an increase of 2,454 over May, 1935, and an increase of 4,747 over April, 1936. In the central district, there were 62,825 calls compared with 57,878 the corresponding month last year, and 62,723 in April, 1936.

The southern division recorded a total of 30,333 during May, 1936, an increase of 2,016 over the same month last year, but a decrease of 274 compared with April, 1936.

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Flashes and Plugs— News Briefs and Comments

Telephone subscribers in England can dial to connect with a "talking clock" which reports the correct time every ten seconds.

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According to the American Federation of Investors, the average citizen works two days a week for the tax collector.

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The telephone switchboard in the Waldorf-Astoria Hotel, New York, serves as many people as a telephone system in an average city of 25,000 population.

Court Sustains Ohio Rate Order

OHIO Supreme Court sustains order of state commission directing Ohio Bell to make refunds under rate reduction order issued two years ago

LITIGATION which has extended over a period of nearly 12 years in the Ohio Bell Telephone Co. rate case, came to an end on July 22, so far as the state courts are concerned, when the Ohio Supreme Court rendered a decision affirming the order of the Ohio Public Utilities Commission directing the telephone company to refund $11,832,264 to subscribers in 44 cities and towns of the state as an overcharge in rates.

The court refused a refund of $838,000 asked by the city of Cleveland within the Cleveland telephone exchange area and ordered a refund of $645,132 in the area. The Cleveland case was a companion case to the telephone company's case against the public utilities commission. The city, however, had asked a larger refund than that ordered by the commission in 1934.

The order of the commission, sustained by the highest court in the state, directed the telephone company to consolidate the service and file new schedules fixing the rates to be charged for service in each individual case. Hearings were held on the individual cases covering a period of more than two years. The commission then upon its own initiative issued an order in October, 1924, consolidating the cases into a state-wide case because of the issues common to each of the individual cases.

Acting upon the case in its new status, the Ohio Bell Telephone Co. filed with the commission an inventory of its property on December 1, 1924. A few months later the case was adjourned to await a legislative appropriation of $100,000 to take care of the state expense in the case which included the employment of W. J. Hagenah, a Chicago engineer.

Two years from that time an additional appropriation of $60,000 was made for the attorney general's office, and other additions were made until $234,000 had been spent by the state in carrying on the case.

When the matter finally rested in the hands of the commission in February of 1927, that body at the request of the attorney general reopened the case for the purpose of offering additional evidence which had to do with the valuation of the company's properties.

A tentative valuation of the properties was fixed by the commission in January, 1931, at $104,282,735, as of June 30, 1925. To this valuation, protests were filed by both the state, and the telephone company. The contention of the state was that the valuation was too high, while the company contended that it was too low.

About this time a decision by the United States Supreme Court in the case of the Illinois Bell Telephone Co. turned the attention of the Ohio Public Utilities Commission to a consideration of the profits of the Western Electric Co.

The Ohio Bell voluntarily furnished the commission with the percentage payments to the A. T. & T. Co. for rentals of transmitters and receivers and for other services in which it was revealed that the percentage fell from 4½ per cent to 1½ per cent in 1929. Desiring still further information the attorney general asked for, and received from the company, data on the profits and prices of the Western Electric Co. and the American Telephone & Telegraph Co. Final briefs were filed in October, 1933.

In its decision rendered in January, 1934 (TELEPHONY of January 27, 1934, page 13), the commission held that the earnings of the Ohio Bell Telephone Co. from 1925 to 1932 inclusive, were excessive and that $13,289,172 should be refunded to the customers entitled thereto. This was followed by a supplemental order directing the company to file a lower rate schedule as of June 30, 1925. Later the commission denied the company's appeal for a rehearing of the case.

Although the original valuation of the company's property was fixed at $104,282,735, a reduction of $2,714,788 was made when the commission threw out the value of properties used in interstate business. It also reduced the

LAZINESS

By MISS ANNE BARNES

Traveling Chief Operator, Iowa Independent Telephone Association, Des Moines, Iowa

THE DEPRESSION has made many people idle who never wanted to be. The deplorable thing about prolonged idleness is that it inclines to make folks lazy. Laziness grows on people who are indefinitely idle. At first, it is not difficult to break away from lazy habits but, in time, they become stronger than iron chains.

We can make excuses for idle people even though they have let themselves down until their morale is broken, but there is no excuse for the person who is lazy on a permanent position. What chances such people take, especially during these hard times when employment is still scarce and likely will be for some time.

"How do lazy people hold their positions?" we often wonder. They surely levy a heavy tax upon the industrious ones who work beside them.

Hetty Stone was such a person. It never seemed to occur to her that she was one of the fortunate ones who could turn her toes in the direction of a good steady position daily while others, less fortunate, were forced into idleness by the depression.

Being the lazy type, she was careless about storing her headset when she was not using it. You were sure to find it draping a chair or restroom table. It was always out of order. She lowered her chair so that she could rest her elbows on the keyshelf. From this position she slouchily handled connections.

Here is an old English proverb in which I have taken the liberty of inserting a word in parenthesis: "An idle (lazy) brain is the devil's workshop." Hetty's lazy brain brewed many little disturbances among the other operators.

She is "going strong" in her office in spite of her indolence. No, it isn't overlooked. It is put up with for no reason whatever.

MORAL: "Indolence is the dry rot of even a good mind and a good character, the practical uselessness of both; it is the waste of what might be a happy and useful life."—Edwards.

OBITUARY

MINOR S. GOULDING, assistant plant extension engineer for the Indiana Bell Telephone Co., died recently in the Methodist Hospital in Indianapolis. He had been ill since May 28.

Mr. Goulding was born in that city on November 18, 1879. He began his first telephone job with the old Central Union Telephone Co. in 1899 as an equipment installer. Four years later he was transferred to the New York Telephone Co. as equipment foreman but after six months returned to Indianapolis as toll wire chief. In 1909 he became wire chief for the Pacific Telephone & Telegraph Co. in Portland, Ore.

He returned to Indianapolis in 1910 as toll plant engineer with the Central Union and the Indiana Bell. In 1930 he became assistant engineer.

Mr. Goulding was a member of the First Presbyterian Church and the Telephone Pioneers.

Survivors are the widow, Mrs. Alberta M. Goulding; his mother, Mrs. Carrie M. Goulding; two children, James Goulding and Miss Jean Goulding; a sister, Mrs. John Hill, and a brother, John R. Goulding, all of Indianapolis.

Burial was held in Crown Hill cemetery.

working capital from $3,500,000 to $2,948,502, and in its final decision working capital was entirely eliminated. These with other reductions brought the final valuation down to $93,707,488 as of June 30, 1925.

It was also held by the commission that the telephone company was entitled to a return of 7 per cent for the years of 1925 through 1929, 6½ for 1930 and 1931, and 5½ per cent for 1932 and 1933, the return amounted to only 3.7 per cent.

The company branded as illegal, the refund order. In making its protest it contended that there was no premise by which the commission could determine how much should be refunded to the exchanges in which the rates were being collected under bond. The company made the further contention that the commission's order was directed to exchanges where rates already had been approved by the commission itself.

Following this protest the commission on March 1, 1934, altered its order of January 16, 1934, directing the company to compute in each community the reduction in revenues if lower rates were substituted, and to furnish any and all increases in rates being collected under bond. It also reiterated its request for the submission of new rates for all communities.

Being denied a rehearing in the case, the telephone company carried the case to the state supreme court in three separate actions on March 14, 1934. Two of these asked the court to set aside the findings and orders of the commission in which it had found that the company earnings were excessive and would have compelled the company to lower its rates, and to reverse the findings of the commission on the fair value of the property.

The third action sought to suspend the commission's decision. This was denied by the court upon the grounds that the commission had not issued a final order for the lowering of rates.

On April 18, 1934, the telephone company submitted to the commission data on materials, rates, and the revenues produced by such rates, and about three months later another order was issued by the commission reducing the amount of refunds previously ordered, to $11,423,137 for exchange service and $744,541 on toll calls.

In October, 1934, the commission reduced the refunds for exchange service to $11,832,264 and directed the company to make the refunds within 90 days. The latter, however, was granted a stay of execution of the order, by the supreme court, pending hearing.

The Ohio Supreme Court's decision in affirming the order of the Ohio Public Utilities Commission was unanimous, except that Judge Thomas A. Jones did not participate. The members participating were: Chief Justice Carl V. Weygandt, Judges Will P. Stephenson, Roy H. Williams, Edward S. Matthias, Arthur H. Day and Charles B. Zimmerman.

Whether or not the Ohio Bell Telephone Co. will rest on the decision of this court or will carry the case to the United States Supreme Court, remains to be determined.

A. J. Allen, operating vice-president of Ohio Bell, branded the decision of the court as "unsound and arrived at by methods frequently condemned by the United States Supreme Court." Mr. Allen further stated:

"We have believed and still believe the decision of the public utilities commission to be unsound. The conclusion of the court is both surprising and disappointing to us. Until we have had an opportunity to study the decision we will be unable to say what action we shall take."

The refund, it is estimated, if and when it is made, will be distributed among subscribers equal in number to half the population of the state.

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CHICAGO

Northern Ohio Telephone Co. Modernizes Its Port Clinton Exchange

By WM. C. HENRY
Secretary and General Manager, Northern Ohio Telephone Co., Bellevue, Ohio

THE NORTHERN Ohio Telephone Co. has converted 11 of its 40 exchanges in northern Ohio to automatic operation and contemplates the further conversion of additional exchanges when present switchboard equipment in use is replaced.

The latest exchange of our group to be cut over to automatic operation is Port Clinton, where recently 560 lines of Automatic Electric Co.'s line finder equipment were placed in operation. This equipment will serve approximately 1,250 subscribers' stations with four different classes of service. These include individual line service, two-party, five-party, and ten-party lines. Ringing on all party lines is full selective, harmonic ringing.

We have had considerable experience with this type of equipment, having installations (in addition to the one at Port Clinton) at Delaware, Haskins, Tontogany, and Willard. Our satisfaction with its operation is based on practical experience, considered both from the subscribers' point of view and from our own, and is amply indicated not only by the recent conversion of Port Clinton, but also by new orders which we have just placed for 720 lines of similar equipment for Bowling Green, and for a 40-line Strowger C-A-X for Radnor.

Special Sound-Absorbing Ceilings Characterize the Remodeled Toll Room in Which This New Three Position Toll Board is Installed.

General View of Switchroom at Port Clinton, Ohio, Showing Automatic Electric Line-Finder Equipment Recently Placed in Service.

At the same time that we were installing the automatic equipment at Port Clinton, we were remodeling, on an extensive scale, the building which we own in that progressive lake-port city. referring to the illustration on page 27, the right front corner of the building contains the commercial offices, which we completely refinished in dull walnut paneling.

The toll room, at the left of the entrance, was also refinished, and since the new three-position Automatic Electric Co. toll board was specified with walnut finish, the general appearance is quite attractive. Special sound-absorbing ceilings were installed in both the toll room and the commercial offices, thus eliminating noise and confusion to a surprising degree.

Back of the toll room and offices is

Remodeled Building of the Northern Ohio Telephone Co. at Port Clinton, Ohio, In Which is Housed New Automatic Electric Equipment.

the switchroom where the new automatic equipment is housed. In back of this, at the rear of the building, garage facilities and storage space are provided. The second floor of the building is finished as offices, which are rented out for commercial purposes.

Trunks are provided from Port Clinton to the manual exchanges of Oak Harbor, Genoa, Put-In-Bay and Camp Perry and to the Erie Ordnance P-A-X. The manual exchange boards are provided with dials to permit the operators in those exchanges to dial directly into the port Clinton automatic area. A. C. dialing is used over the four manual exchange trunks, and D. C. dialing to the Erie Ordnance P-A-X.

Power for operating the exchange is furnished by a 12-ampere Tungar rectifier in conjunction with a storage battery operating on a full floating basis. Duplicate harmonic ringing converters, ringing interrupters and busy and dial tone generators are provided.

Since placing this automatic exchange in service we have received an unending stream of favorable comment from our subscribers at Port Clinton, both as to the improvement in local and toll telephone service and as to the pleasing and convenient commercial facilities provided for their use.

▼ ▼

Employe Must Cooperate in Applying Safety Measures

A recent issue of the South East Division News, employes' publication of the South East Public Service Corp. of Virginia, reports that Walter E. Winkler, service man at Elkin, N. C., while on a pole leaned back into his belt and safety strap. Since the snaps were not properly fastened, he fell to the ground, receiving painful and, perhaps, serious injuries.

L. D. Densmore, general manager of the company, directs attention to the fact that had the following safety rule been followed, there would not have been an accident:

"Before leaning back on a belt and safety strap, the employe shall be sure that snaps are properly engaged in the Dee rings."

It is the responsibility of the employe and the employe alone, said Mr. Densmore, to be sure that both snaps are properly engaged in the Dee rings.

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Alberta Government Selling Rural Telephone Lines

With the sales aggregating another 205 miles of rural telephone pole line early in July, the Alberta (Can.) Provincial Government has now disposed of more than 75 per cent of its non-urban circuit mileage.

The total sale price has been $231,141 for 15,528 miles of pole line and 26,229 miles of wire line. Some 6,700 telephone subscribers have been involved in these changes. The book value of the lines sold is reported to have been $5,449,569. It is estimated that some 5,830 new subscribers have joined the mutual telephone systems since the sales began.

ROEBLING
electrical
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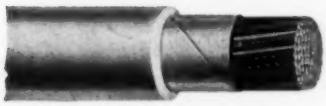
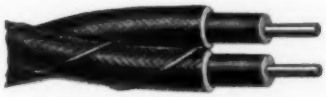


Telephone Switchboard Cable... Silk and Cotton Insulated and Leaded... 50 Pairs.



Twisted Pair Telephone Wire... Rubber Insulated and Braided.

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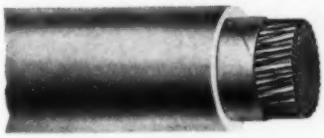
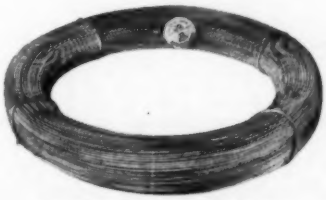


Telephone Cable... Paper Insulated and Leaded... 150 Pairs.



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Activities of Commissions and Courts

Recommends Company Be Classed as Independent

The Garrett Telephone Co. of Garrett, Ind., has apparently won its fight to be considered an Independent telephone company engaged in interstate commerce, and not controlled by the Indiana Bell Telephone Co. David G. Arnold, chief examiner of the telephone division of the FCC, has recommended that the commissioners classify the Garrett Telephone Co. as a "connecting carrier."

The Indiana Bell Telephone Co., which owns 300 shares of the Garrett company's outstanding 600 shares of stock, and $23,000 of its bonded indebtedness, does not control the Garrett Telephone Co., Examiner Arnold decided. Interstate carrier classification is established though the fact that lines of the Garrett company, located in Dekalb county, Ind., connect with those of the Indiana Bell Telephone Co., and the Home Telephone & Telegraph Co. of Fort Wayne, enabling it to accept and transmit messages beyond the state line.

FCC officials stated the commissioners would act according to the examiner's recommendation. However, 15 days' time will be allowed for interested parties to file any exceptions to the examiner's report, showing why the recommendations should not be followed.

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Sizes and types for heaviest construction to light rural electrification lines. Write for Bulletin No. 1134.
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Hearings Resumed in Illinois Bell Case

The Illinois Bell Telephone Co. introduced testimony into the record at the rate hearing on July 27 in Chicago before the Illinois Commerce Commission showing the services it receives from the American Telephone & Telegraph Co. in return for the payment to the A. T. & T. of 1½ per cent of its gross receipts.

The hearing is on the commission's citation issued in 1934 for the company to show cause why its rates within the state should not be reduced, and also on the company's petition to be permitted to increase its rates 3 per cent to offset the state sales tax which it now pays. The hearings were commenced in 1934 and then discontinued until the commission had completed hearings in the case of the Commonwealth Edison Co.

H. S. Shepherd, an engineer in the company's laboratories, explained the engineering, research, patent, financial and accounting service it receives from the A. T. & T. He dwelt on technical improvements made on telephone apparatus.

Arkansas Ordinance on Coin Boxes Fought

The Southwestern Bell Telephone Co. recently appealed the Arkansas Department of Public Utilities against enforcement of an ordinance passed by the Fort Smith, Ark., City Council making it a misdemeanor for the company to require subscribers to install coinbox telephones in public and semi-public business houses. The commission declined to grant a temporary order suspending the city ordinance. The case was taken under advisement by the commission and an early order is expected.

The ordinance provides a fine against the company if it refuses to install and maintain telephone service "upon the payment of flat rates applicable to the type of service demanded." The penalty is a fine not to exceed $10 a day with each day of continuous violation considered a separate offense.

Telephone officials, in filing the appeal, charged that the Fort Smith ordinance is arbitrary and was passed without notice to the telephone company. Company officials said that about 220 Fort Smith customers had been asked to relocate their telephones to eliminate free use of business telephones by the general public, or to install coinbox instruments, where the public must pay to use the telephone. Of the 200 cases, about 150 were adjusted, and the ordinance resulted from objections on the part of the other customers who refused to permit installation of the telephones in places inaccessible to the public.

Lorain (Ohio) Company Sued in Toll Dispute

The Ohio Bell Telephone Co., on July 15, filed suit in the common pleas court in Elyria against the Lorain County Telephone Co., of Lorain, Ohio, for the collection of $51,790 which it claims is due as its share of $96,794 collected from Lorain users of long distance service since August, 1935, under a contract which the plaintiff alleges it has had with the Independent company since January, 1933. It is claimed the agreement provides that it is to run for one-year periods unless notice is given for its discontinuance.

H. E. Hageman, treasurer-manager of the Lorain company, says it has declined to pay over the share of Lorain tolls demanded because under the plan dictated by the Ohio Bell the local company was forced to operate long distance service at a loss of approximately $1,000 a month. The plan requires that the local company accept all incoming long distance calls from Ohio Bell subscribers without cost to the latter, but that the Lorain company pay approximately 57 per cent of the tolls on all out-going calls to the Ohio Bell.

In August, 1934, Mr. Hageman protested and, citing the loss, asked a more equitable arrangement, agreeing to pay approximately 75 per cent of tolls out of Lorain, while continuing to accept incoming calls without charge. Since then it has offered repeated settlements on this basis, but the Bell company refused to accept them.

The controversy was placed before the Ohio Public Utilities Commission, but it declined to intervene, and the matter is now before the Ohio Supreme Court, and may finally reach the Federal Communications Commission.

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Directory Listing Error Held Cause for Suit

The Oregon Supreme Court, in a ruling handed down July 7, held that an improper listing may be just cause for a damage suit. It reversed the lower court ruling in the case of Tom Lee, operator of an automobile repair service in Portland against the Pacific Telephone & Telegraph Co. and remanded the case for further action.

The plaintiff alleged that the telephone company had listed his name twice in its Portland directory—once under the location being operated by another service man. He claimed that as a result of this double listing, he had lost business amounting to $2,900. The opinion of the supreme court, written by Justice John Rand, held that since the telephone company had been directed to eliminate the second listing but had failed to do so, there was cause for action.

▼ ▼

Denies Permission to Construct Toll Line

Because of its failure to comply with the laws of 1921, the town of Carpenter was denied permission by the Minnesota Railroad & Warehouse Commission, to construct a toll line from its exchange to connect with the Nashwauk exchange of the Northwestern Bell Telephone Co., in an order handed down last month.

The law in question provides that when a township telephone system shall be established in a community already provided with telephone service, the township shall purchase from the competing telephone system, when so requested, all of the equipment used in the furnishing of telephone service in that township.

The Minnesota Railroad & Warehouse Commission, in a ruling issued January 13, ordered the deferment until July 1 of final decision in the petition of the town of Carpenter for permission to construct a telephone line from its exchange to connect with the Northwestern Bell Telephone Co.'s exchange at Nashwauk to allow the petitioners an opportunity to comply with provisions of the law.

The commission's opinion set forth in its January order in this proceeding reads, in part, as follows:

"It is evident from the record in this case that the telephone situation was precipitated by motives entirely unrelated to it, but is being used as a medium through which to express an acrimonious feeling. The commission is not attempting to fix the blame nor determine the motive, but will consider the issues in conformity with the Minnesota statutes providing for the regulation of public utilities.

We, therefore, have a situation here, where a small locally-owned rural telephone company is organized to render telephone service to a group of townships and upon refusal of said townships to pay for the service in cash, or its equivalent, the telephone company discontinues the service. Thereupon the said townships install their own switchboard and petition this commission for permission to construct a toll line to be used in lieu of the facilities of the telephone company. The petitioners state they cannot deal with the telephone company; therefore, the line is necessary. The telephone company in its testimony, states that it is ready and willing to reestablish service at rates and on conditions prescribed by this commission.

The petitioners come before the commission with a proposition to construct a 30-mile toll line at an estimated cost of approximately $5,500. They state they have applied to the federal government for an appropriation of $4,000 and that the remainder is to be raised by the townships and through donations. However, they offer no evidence to show that the federal government is, in any way, interested in giving them $4,000, or that the remainder could be raised.

The commission does not wish to doubt the sincerity of the petitioners herein, but has no assurance that the situation is not analogous to similar cases brought before them in the past, wherein it was found that the petitioners did not have the finances with which to carry out their proposal nor any prospects of acquiring them, but expected to use the commission's order to satisfy personal grievances in a manner contrary to law."

▼ ▼

Up-State Company Pays Rate Probe Costs

A short time ago the Up-State Telephone Corp. was ordered to pay an assessment levied against it by the New York Public Service Commission for

(*Please turn to page* 32)

Vacuum Grip Professional Lineman Pliers

LINEMAN'S FAVORITE
58-R—8½" $3.25
57-R—7", $2.50
56-R—6", $2.00
Designed by skilled toolmakers, with every feature for facilitating the work of the lineman.

Company or lineman's name etched FREE on handle of each pair.

Special prices on lots of one-half dozen or more.

Where "MORE" means "LESS"

YOU pay only *a little more* for Vacuum Grip Lineman Pliers than for other makes—but you actually pay *much less* when you figure that one pair outlasts three and four pairs of ordinary pliers.

Is there any economy, we ask you, in saving a few cents at the beginning, only to lose dollars in the long run!

Every year our records show a big increase in the sales volume of these super-pliers. *Somewhere* there are Purchasing Agents who have weighed first-cost differentials, and wisely ignoring the negligible extra cost of Vacuum Grip Pliers, have found that it represented a far from negligible saving.

OUR 30-DAY TRIAL OFFER

enables you to prove our claims to your own satisfaction, by means of running tests — at no risk of loss to yourself.

Write us for particulars.

FORGED STEEL PRODUCTS CO., Newport, Pa.

Vacuum Grip
REG. U.S. PAT. OFF.
Pliers

OVER A MILLION IN USE

The Manufacturers' Department

Monophone, Dress, Photo Film of Same Material!

Representing the latest accomplishment of the Eastman Kodak Co.'s research staff, a new material for women's frocks, called Mount Airy cloth, has recently been placed on the market. A fact of unusual interest about this new fabric—shown in the dress in the accompanying illustration—is that it makes use of the same basic material as that used in the Automatic Electric Co.'s Monophone, which is also shown, namely, Eastman acetate. It is also interesting to know that the camera film on which the picture was taken embodies the same acetate in its composition.

Eastman acetate, in the form known as Tenite, product of Tennessee Eastman Corp., is being used by Automatic Electric Co. for certain of its colored Monophones. It has been found to be highly resistant to impact stresses, as well as attractive in the high luster finish and delicate pastel shades which can be obtained by its use.

Acetate Used in Producing This Colored Automatic Monophone Was Also Used in Making Fabric for the Dress This Charming Telephone User Is Wearing, Not to Mention the Film With Which the Photograph Was Taken.

▼ ▼

Error in Directory Listing of Ray-O-Vac Co.

The headquarters of the Ray-O-Vac Co. are located at Madison, Wis., and not at Freeport, Ill., as was erroneously stated on page 28 of the "Classified Products Index" of TELEPHONY'S 1936 Directory of the Telephone Industry under the listing of "Flashlights." The company's address in its listing under "Batteries—Dry Cells" on page 20 and in the "Manufacturers' Index" on page 54 was correctly given; likewise in its advertisements on pages 22, 69 and 92.

It is suggested that this correction be made in copies of TELEPHONY'S directory, in order to avoid any possible misdirection of mail.

In addition to its main office and plant at Madison, Wis., the Ray-O-Vac Co. has factories at Clinton, Mass., and Lancaster, Ohio. The Ray-O-Vac Co. (formerly the French Battery Co.) is one of the oldest manufacturers of telephone and flashlight cells.

▼ ▼

Preservative Treatment of Poles and Cross Arms

The accompanying table presents some advance government statistics on preservative treatment of poles during 1935, as compiled by R. K. Helphenstine, Jr., of the U. S. Forest Service, Washington, D. C., in cooperation with the American Wood-Preservers' Association.

It will be observed that of the number of poles reported as having been treated during the past year (totalling 2,033,700), 1,183,897 or 58 per cent were southern pine. All of this group received full length pressure treatment.

Western red cedar poles ranked second, with a total of 528,259 poles; northern white cedar third, with a total of 187,912 poles. Of all the poles subjected to preservative treatment, 98.8 per cent were treated with creosote. There was an increase of 11.6 per cent in the number of poles treated during 1935 as compared with the preceding year.

In 1935 a total of 567,080 crossarms were given preservative treatment, a decrease of 270,268 from the number reported the year before. Of the number treated during the year covered by this report, 470,405 were southern pine, 96,575 were Douglas fir, and 100 were oak. All but 82,569 crossarms were given pressure treatment, and all but 176 were impregnated with creosote.

Kind of wood:	Pressure Treatment Number	Non-pressure Treatment Number	Total Number
Southern pine	1,183,897	.....	1,183,897
Cedar:			
Western red	14,902	513,357	528,259
Northern white	.....	187,912	187,912
Southern red	94	8,170	8,264
Lodgepole pine	.....	61,531	61,531
Chestnut	.....	24,045	24,045
Douglas fir	19,481	5	19,486
Norway pine	18,391	.....	18,391
Miscellaneous	1,594	321	1,915
Total	1,238,359	795,341	2,033,700

Government Statistics Showing Poles Treated and the Kind of Treatment Used During 1935, With Southern Pine Poles Totaling 58 Per Cent.

▼ ▼

Four New Commercial Exide Batteries

Four new commercial types of Exide batteries for trucks are announced by the Electric Storage Battery Co., Philadelphia, Pa. These new Exides have been put on the market to meet the demand for batteries especially designed for service on light, high-speed trucks where the conditions are different from those under which passenger cars are operated. The designs of the batteries are based to a great extent on the results of months of study in the field by Exide engineers.

Each battery is equipped with Mipor, the permanent latex base separator used exclusively in Exide batteries; and the Exide slotted-rubber plate protector—a combination that, according to the manufacturer, will give extraordinary long life and high starting capacity.

Mipor resists heat, an important feature for batteries used in trucking service where long daytime runs and overcharging are the rule rather than the exception. Likewise the slotted-rubber plate protectors help to hold the active material in the grids and lengthen the life of the plates. This also is an important feature because of the tendency of excessive charging, so common in trucking service, to loosen the active material.

Other features of the new Exide commercial types are extra-high thick plates, 5/8ths of an inch higher than standard, and positive plates of the same thickness as negatives. Extra elec-

trolyte space is provided, which lessens the frequency with which the battery must be watered; and a quarter-turn vent plug contributes a time-saving factor when such watering is necessary.

The plates are bevel-cornered with feet; the intercell connectors are extra heavy; and the post seals, corrosion-proof. The batteries are assembled in heavy duty, genuine hard-rubber containers equipped with handles.

▼ ▼

Fire Destroys Kansas Exchange; Quick Replacement

On April 18, the exchange of the East Kansas Telephone Co., located at Nortonville, Kans., was destroyed by fire. Quick action was required in this emergency to restore service to the community with as little inconvenience and loss of time as possible.

Telephone calls were made throughout Sunday, the day following the fire, to officials of American Automatic Electric Sales Co. in Chicago. Arrangements were made for immediate shipment of two one-position Monotype magneto switchboards which were in stock at the Kansas City warehouse of the company. The delivery of a new 300-line main frame was also arranged for.

Within 48 hours from the time of the fire, material for rehabilitation of the exchange was on hand at Nortonville, and within a short time thereafter, lines were being connected for restoration of service—another example of speedy action resulting from cooperation between operating company and manufacturer.

▼ ▼

Only Volcanoes Rival Sound of New Loudspeaker

The world's loudest loudspeaker, perhaps the loudest device of any kind ever built by man, is to be installed by the Western Electric Co. at the new Roosevelt Automobile Raceway, at Mineola, Long Island, N. Y. Mounted on a steel tower will be 19 electric loudspeakers facing in all directions. In addition, there will be 12 smaller loudspeakers located on the same tower to serve the nearby grandstand. This arrangement provides uniform sound intensity throughout the entire premises. Announcements may be made or instructions given to racers on any part of the track, even above the roar of racing cars.

Calculations based on the electric power used to work the 19 horns indicate that the installation will produce a total sound of about 140 of the decibel units now used to measure sounds. Since any sound much over 130 decibels creates actual pain in an average ear, it may be expected that the new system will be painful, if not disastrous, to anyone who climbs the tower and gets too close to the horns.

The loudest human shout ever measured is 86 decibels. Because of the special logarithmic character of the decibel scale, this is less than one one-hundred-thousandth of the sound expected from the new tower. The loudest automobile truck ever measured is 102 decibels, the loudest motor horn is 104 decibels, the noisiest railway train is 106 decibels and the noisiest pneumatic riveter 109 decibels; all less than one-thousandth as loud as the combined 19 horns.

The noisiest human contrivance of any kind previously recorded is an airplane measured as 123 decibels, still only about 1 per cent of the new tower. Even Nature is no serious rival, for the loudest thunder ever measured is only 106 decibels. Volcanic explosions probably are the only natural noises that are louder, the explosion of the island of Krakatoa in 1883 being computed as about 190 decibels.

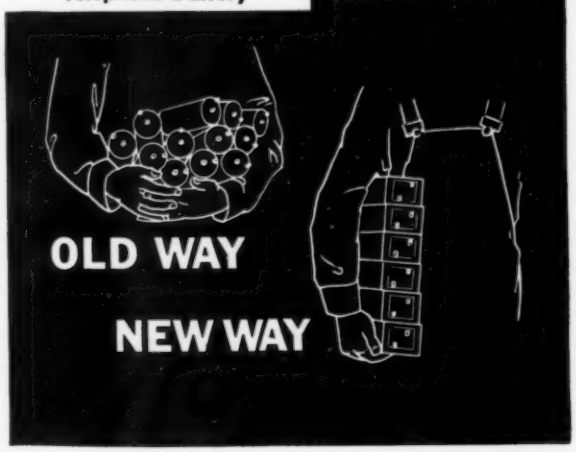
▼ ▼

Dictaphone Concealed in Telephones in Germany

In Germany dictaphones are concealed in telephones so the government can hear what passes over the wires. Wouldn't that make Americans sore?

A Feature of the BURGESS Twin-Six Telephone Battery

EASE OF HANDLING



Six new No. 4F2J Burgess Twin-Six batteries replace twelve old No. 6 cells. The new shape and lighter weight make them easy to stock and handle. Furthermore, installation is simplified because there are only two connections instead of four.

Price is 39c each in lots of 30. Order today from Inland Equipment Company (Distributors), Max F. Hosea, President, Indianapolis, Ind.

The TWIN-SIX by

BURGESS

SUB-CYCLE

Will MASTER Your Ringing Problem

NOTHING TO WEAR OUT!

- No Moving Parts
- No Adjustments
- Economical
- No Radio Interference
- Produces a Powerful Ringing Current
- Operates on 110 volts A.C.

PRICE, $45.00

30 DAYS' FREE TRIAL

You Take No Risk

SUB-CYCLE

LORAIN PRODUCTS CORPORATION, LORAIN, OHIO

Lorain Products Corporation is exclusive manufacturer for use and sale in United States. Address foreign inquiries to Automatic Electric Sales Co., Ltd., Chicago, Illinois.

Sold by Leading Distributors

Buyer's Weekly Guide

CABLE—LEAD ENCASED

Kennecott Wire and Cable Company, Subsidiary of Kennecott Copper Corporation (formerly American Electrical Works), Phillipsdale, R. I.—Paper telephone cable, switchboard cable, bare copper wire. Chicago office: 20 N. Wacker Drive; Cincinnati: Traction Bldg.; New York: 100 E. 42nd St.

CORDS, CABLE AND WIRE

Lenz Electrical Manufacturing Co., 1751 N. Western Ave., Chicago—Established 1904—telephone and switchboard cords for all makes of equipment, braided and lead-covered telephone cable, flame-proof jumper wire, interior telephone wire, switchboard wire.

CORDS AND WIRE

Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago — Telephone and Switchboard Cords, Flame-proof Jumper Wire, Switchboard Wire, Interior Telephone Wire. W. L. Runzel, President, has devoted over 40 years to the making of fine telephone cords.

POLES

B. J. Carney & Co., 100 N. 7th St., Minneapolis, Minn.—Western red cedar poles. Pentrex Butt Treated or Plain.

International Creosoting and Construction Co., Galveston, Texas — Creosoted Southern Yellow Pine Poles. Plants: Beaumont and Texarkana, Texas.

Jordan Bros. Lumber Co., Box 84, Norfolk, Va.—Virginia White Cedar Poles. Plain or charred and creo-treated butts.

MacGillis & Gibbs Company, Milwaukee, Wis.—Northern White and Western Red Cedar Poles. Plain or butt-treated. Immediate quotations on request.

T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles. Plain or butt treated.

H. Sigalet & Company, Ltd., Lumby, B. C., Canada—Western Red Cedar Poles. Plain or Butt treated.

Valentine Clark Corporation, 2516 Doswell Ave., St. Paul, Minn.—Finished Cedar Poles. Plain or Butt treated.

ACTIVITIES OF COURTS AND COMMISSIONS

(*Continued from page* 29)

approximately $2,862, to pay part of the expenses of a rate investigation.

In 1934 the state set up a revolving fund to meet the expenses of rate investigations. Under this law the commission assessed the company for $2,862 for a search of records and affairs from August 27 to December 31, 1934.

Another assessment against the company of $3,919.55 for investigations between January 1, 1935, and June 30, 1935, was paid. The company contended the first assessment exceeded the commission authority under the law, which stipulated the sum in one year of only one-half of one per cent of the company's gross operating revenue for the previous year may be assessed.

The commission issued an order on April 8 making permanent the temporary reduced rates in effect (TELEPHONY of April 18, page 47) and later denied a rehearing and a stay of the order (June 6, page 27, and June 20, page 28).

▼ ▼

Depreciation Rate Set at 4.08 Per Cent

The Nebraska State Railway Commission has issued an order fixing the depreciation rate of the Platte Valley Telephone Corp., which operates 17 exchanges out of its headquarters city of Scottsbluff, Neb., at 4.08 per cent for 1936. Last year the rate was 3.5 per cent.

In 1934, the commission finds, the average investment in depreciable property was $1,070,000, while in 1935 there was a decrease of $19,000; that during 1935 there accrued to the depreciation reserve $36,704 and $15,612 in salvage, making a total credit to reserve of $51,866; that during the same year depreciable plant displaced amounted to $51,271 and with cost of removal added a total debit of $53,109 resulted; that the balance in the depreciation reserve on December 1, 1935, was $236,202, a decrease for the year of $1,243.

The company proposed a rate of 5 per cent. On January 1, 1936, the depreciable property amounted to $1,042,359, upon which a 5 per cent rate would produce $52,117, or if salvage of $15,162 were added the total amount required would be $67,280. The commission, however, refuses to be bound by the experience of one year, and in this case took into consideration the past 22½ years.

It holds that the company's actual experience over a period which equals or approaches to an average turnover or cycle of all depreciable property forms a sound basis for estimating future depreciation rates.

The commission's accountants supplied data covering the experience of the Platte Valley Telephone Co. from 1914 to 1927 and its successor corporation, the Platte Valley Telephone Corp. from 1927 to date. These figures show that almost every year there was credited to depreciation reserve a larger amount than was debited, so that the total debits for the 22½-year period on the total of depreciable property of $14,292,325 were $508,582 and the total credits $711,921. This gave on the average value of the property, $631,214; debits of $22,602, or 3.58 per cent; and credits of $31,640, or 5.01 per cent. The commission adds:

"An allowance should be made for the respondent company's existing accrued depreciation as of December 31, 1935. In our former order we found the existing depreciation to be 10 per cent of depreciable property and there is no evidence before us that it is different now. The respondent's depreciable property as of December 31, 1935, amounted to $1,042,359 26 and the existing depreciation reduced to dollars, amounts to $104,235.93.

Deducting from this the sum of $33,833.56, the balance in its depreciation reserve on July 1, 1913, we have $71,402.37. By dividing this sum by $14,202,325.29, the total of the average amount of depreciable property by years for the 22½-year period, we have a rate of .5 per cent and which added to the above rate of 3.58 per cent, we reach an over-all composite rate of 4.08 per cent.

This rate would have been sufficient for the 22½-year period to have taken care of all replacements and to have kept respondent's investment intact. It is based on the test of actual experience. It is not based upon any judgment factor except the judgment of its management as to when replacement should be made."

▼ ▼

Rural Electrification Problem to Small Companies

A recent Nebraska Supreme Court decision—which gave two public power projects, organized by farmers to develop rural electrification service, a clear title to proceed and borrow all the government money they can to build lines—makes acute a situation in southeastern Nebraska with respect to telephone lines.

The attorney general had questioned the legality of their organization because they were apparently planning to occupy parts of the same rural territory, but the supreme court said that when the state engineer issued a certificate of convenience and necessity and held the projects to be feasible, that ended any controversy.

The projects cover a thickly-settled

portion of Nebraska and will serve parts or all of ten counties. While the Lincoln Telephone & Telegraph Co. dominates the section and serves the more important points, there are a number of small stock companies as well as farm mutuals that offer service. The big company has been metallicizing its lines over a number of years, and will not be seriously bothered by the fact that eventually nearly every highway will have a power line strung along its length.

While the public power projects were held up in court, the private companies secured permission from the Nebraska State Railway Commission to build a number of transmission lines that will occupy the main highways. Now come the public power developments which must either resort to costly construction of lines that will clear private property lines on the same roads or take to the subsidiary highways where they will bring home to the small companies with grounded lines the problem of conversion to two-line service and the question of "who must pay the cost."

Representatives of the Farmers' Mutual Telephone Co., of Clatonia, Neb., have brought the issue to the attention of the commission by protesting against signing the type of waiver of claims for damages that the Southeastern Nebraska public power district wants them to sign. Having no reserves the smaller companies object to any plan that makes them, prior occupants of a highway, pay the expense of a two-wire circuit incurred because a power company wants to come down the same highway.

▼ ▼

Lower Handset Rate in Minnesota, North Dakota

The Northwestern Bell Telephone Co. has announced a reduction in the additional charge for handsets in Minnesota and North Dakota from 25 cents to 15 cents per month for three consecutive years, effective August 1.

▼ ▼

Hickory (N. C.) Telephone Co. Files Rate Reductions

The Hickory Telephone Co. of Hickory, N. C., on July 10 filed with the North Carolina Utilities Commission a new rate schedule that will save its 1,762 subscribers approximately $5,388 annually, effective August 1. The 25-cent monthly charge for handsets is removed after the instrument has been in service for 18 months.

Business rates are reduced as follows: One-party, from $5 to $4.50 per month; two-party, from $4 to $3.60; four-party, from $3.50 to $3.25; rural, from $3 to $2.75; extensions, from $1.50 to $1.25. Residence rates are reduced as follows: one-party, $3 to $2.75; two-party, $2.25 to $2.15; four-party, $2 to $1.50; rural, $2 to $1.75; extensions $1 to 75 cents.

▼ ▼

Commission Rulings and Schedule of Hearings

Federal Communications Commission Washington, D. C.

September 8: Oral argument to be presented before Telephone Division on the exceptions of the Champaign Telephone Co., Urbana, Ohio, to the examiner's report, No. 111-4.

October 5: Hearing before examiner of Telephone Division at Hotel Goldman in Fort Smith, Ark., in the case of the Oklahoma-Arkansas Telephone Co. against the Southwestern Bell Telephone Co., concerning the latter's installation of a toll board at Poteau, Okla., and the complications arising therefrom.

Arkansas Department of Public Utilities

July 10: The Boone County Telephone Co. filed a motion to dismiss the rate case pending against it. In the motion it is contended that testimony presented at the recent hearing indicates that the present rates are not too high and do not afford an adequate return on the company's investment.

Illinois Commerce Commission

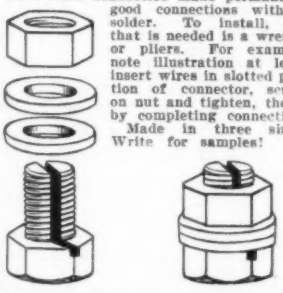
July 8: Illinois Bell Telephone Co. files a revision of the regulations applicable to telephotograph equipment provided by the press.

July 12: Order issued refusing to permit the following companies to increase rates so that customers would pay the 3 per cent utility tax: The

Make PERMANENT, Good Connections without Solder

A loose or rusty connection on a telephone line causes high resistance and as a result, transmission of sound over that line is unsatisfactory.

Allen brass connectors make permanent, good connections without solder. To install, all that is needed is a wrench or pliers. For example note illustration at left: insert wires in slotted portion of connector, screw on nut and tighten, thereby completing connection. Made in three sizes. Write for samples!



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Frank F. Fowle & Co.
Electrical and Mechanical ENGINEERS
35 East Wacker Drive CHICAGO

COFFEY SYSTEM
Exclusive Telephone Accountants
Systems Installed
Audits and Special Services
CENTRAL ACCOUNTING DEPARTMENT
Lemcke Bldg., Indianapolis

PLANT ENGINEERING and CONSTRUCTION
Building and Rebuilding Telephone Plants
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Wiring Jobs, Installations, Switchboard Alterations
Expert Consultants on All Telephone Problems
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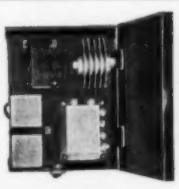
JOHN M. COOK
TELEPHONE ENGINEER
Specializing in toll compensation matters—for the better part of twenty-nine years.
Standard Bldg. ATLANTA, GA.

Accounting, Tax and Rate Consultant
22 Years' Continuous Contact with Telephone Organizations
C. B. RUSSELL
Interurban Bldg., Columbus, Ohio

JOHN C. LARKIN AND COMPANY
Consulting Accountants and Engineers
Specializing in a Professional Service to Telephone Utilities Covering the Field of Accounting and Engineering
Chamber of Commerce Building
Syracuse, New York

Consulting Telephone Engineer
"Modernization of Equipment and Methods for Improved Service"
GARRISON BABCOCK
1104 Third Avenue, Seattle, Washington

NOW—ELECTROX Current Supply Unit for operator's sets at a new low price — $14.85. No batteries needed.
Sent on Trial
Schauer Machine Co.
Cincinnati, Ohio



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Rates 10 cents per word payable in advance.
Minimum charge $2.00 for 20 words or less.

RECONSTRUCTED EQUIPMENT

Western Electric No. 122 External Post connection receivers, less cords @	$ 0.65
Western Elec. No. 250 Local or C. B. Transmitter with back and Mouthpiece	1.00
Kellogg No. 301E Self restoring combine line drops and jacks per strip of 10, @	16.50
Western Elec. No. 20 C. B. Ind. Coils @ 35c ea. No. 46 @	.55
Kellogg No. 79 C. B. Ind. Coils @	.45
Western Elec. No. 20AL desk stand with W. E. Trans. & Rec. complete with 3 Cond. Cord @	5.25
Chicago Telephone Supply 4-bar 1000-1600 or 2500 ohm ringer compacts @	5.35
Chicago Telo. Supply 5-bar 1000-1600 or 2500 ohm ringer compacts @	6.90
Western Elec. No. 143 Receiver with New shell & Cord @	1.15
Kellogg No. 41 Receiver with New shell & cord @	1.25
Western Elec. No. 143 3 spring short lever switch hooks @	.75
Kellogg No. 15 3-bar Brass bearing generators complete with cranks & Screws @	1.85
New Kellogg C. B. or Magneto Grabaphones complete with 3 Cond. Cord less signal sets @	7.25
Western Elec. Cordless Visual signal C. B. PBX board with 7 local lines and 2 trunks complete with desk set Opr. set @	100.00
Chicago Telo. Supply Local Battery Ind. coil, 3 connection type, @	.35

REBUILT ELECTRIC EQUIPMENT CO.
1940 West 21st St., Pilsen Sta.
CHICAGO, ILL.

SPECIAL

No. 1 Buffalo Wire Grips, like new, takes up to No 6 wire—$1.00 each; Cable Cars Complete—$4.50 each; Swinging Door Telephone Booths—$18.50 each; 10-ton Simplex Reel Jacks—$7.50 each; 3 No. 102 Dynamometers—$15.00 each; 4-ft. Duct Rods—$1.75 doz. Prices F.O.B. Chicago.
W. M.° MILLER & SONS
2553 W. Madison St. Chicago, Ill.

RECONDITIONED EQUIPMENT

•

MAGNETO

Desk sets

Wall sets

Hand sets

Piece parts—all types

BUCKEYE TELEPHONE AND SUPPLY CO.

COLUMBUS, OHIO

SPECIALISTS IN

Rebuilding and Repairing

TRANSMITTERS

Absolutely finest workmanship guaranteed.

Baked, black, velvet finish. New granular carbon. Workmanship, adjustments and tests made with the latest and most improved apparatus. 50c each less backs. One-year money-back guarantee.

Full information on request

→ THIS WEEK'S SPECIAL ←

50 Rebuilt W.E. common battery Wall Phones, No. 533, enclosed gongs complete with transmitters and receivers —$8.50.

Handyman pole-jack for straightening and pulling poles—light weight—$13.50.

Crossarm Drain Protectors—5 pr.—$1.50.

Kellogg Rebuilt No. 2300 type Desk set box 4-bar, 1000 or 1600—$5.50.

2000 No. 9 Pony Glass, packed 350 per barrel, F.O.B., Phiadelphia—2c.

Telephone Repair Shop

Rogers Park Station Chicago

Owned and Managed by Dan'l H. McNulty

FOR SALE

CORDS—DROP WIRE

"Lifetime." Ex. heavy bronze tinsel. 36 in. Rec. cords, 15c ea.; 6 ft. 3 cond., 30c. Special sale on drop wire and swbd. cords.

INDEPENDENT CORD CO.,
Framingham, Mass.

WANTED TO BUY

WANTED to buy, lease or operate, exchange of 200 stations or more. Have 11 years' experience, common battery and magneto. Wife 10 years as operator. Can give best of reference. Address 8548, care of TELEPHONY.

POSITION WANTED

WANTED—Position as chief engineer, construction superintendent or manager. Seven years' engineering with Bell. Sixteen years' engineering, construction and managing with Independents. Would like connection with progressive Independent company who would appreciate competence, aggressiveness and loyalty. Have clear record. Best references. Address 8516, care of TELEPHONY.

Staunton Telephone Co., Harrisonville Telephone Co. and Findlay Mutual Telephone Co.

July 28: Hearing in Chicago on commission's own citation against the Illinois Bell Telephone Co. to show cause why there should not be a reduction in rates for intrastate telephone service rendered by the company in the state of Illinois. Entry of appearance of city of Chicago, villages of Maywood, Olympia Fields, and Richton Park. Protest filed by city of Cairo.

Figures to show that the Illinois Bell Telephone Co. had a rate of return for the year 1934 for both interstate and intrastate service of 4.42 per cent, and for the year 1933, 4.22 per cent, were filed recently by the company in the rate case now in progress. Harry R. Booth, assistant counsel for the commission, indicated that the telephone company's figures would be carefully investigated and analyzed.

July 28: Hearing in Chicago on complaint of Ray Cunningham against the Wabash Valley Telephone Co. and the Rossville Telephone Co. as to telephone service in Vermilion County.

Indiana Public Service Commission

July 23: Order issued approving the issuance of bonds valued at $333,500 by the Northern Indiana Telephone Co., North Manchester. The company is to issue 20-year first mortgage bonds at 4½ per cent interest and 9,770 common stock shares of no par value. Proceeds of the sale are to be used to pay outstanding debts of the utility which recently was reorganized under section 77B of the Federal Bankruptcy Act, the commission stated.

Minnesota Railroad & Warehouse Commission

July 1: The commission denied, without prejudice, the application of the town of Carpenter for permission to construct a toll line to connect with the Nashwauk exchange of the Northwestern Bell Telephone Co., in view of the failure of the petitioners to purchase the telephone equipment of the company already furnishing service in the township, as required by law, when such purchase is requested. M-2314.

Missouri Public Service Commission

July 21: Application filed by Edward W. Jones, doing business as the Stella-Starl City Telephone Co., asking for authority to construct a telephone line from Stella to Neosho.

Ohio Public Utilities Commission

July 6: Order issued making permanent rates for intrastate transmission of telephotos. The rates will be the same as those charged for long distance messages.

July 6: Approval granted joint application for a toll agreement between the Northern Ohio Telephone Co. and the Ohio Associated Telephone Co. The agreement is retroactive to October 1, 1935.

West Virginia Public Service Commission

July 24: Hearing on petition of the Chesapeake & Potomac Telephone Co. asking approval of the sale of land owned by the company in Huntington to the Chamber of Commerce of that city.

July 24: Hearing on petition of the Chesapeake & Potomac Telephone Co. asking approval of an amended contract with the Western Electric Co.